

University News

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# University News

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## APOU Convocation



From R to L : Shri Krishna K. Governor of Andhra Pradesh & Chancellor of Andhra Pradesh Open University, Dr. Wichit Srisa Permanent Secretary for University Affairs, Thailand, who delivered the convocation address at R.V.R. Chandrasekhara Rao, Vice-Chancellor, presented citation for award of Doctor of Letters (Honoris Causa) to Dr. Srisa



# DR. YASHWANT SINGH PARMAR UNIVERSITY OF HORTICULTURE AND FORESTRY

NAUNI(SOLAN) 173 230 (HP)

## ADMISSION NOTICE

Applications are invited for admission to the following programmes for Academic Session 1991-92 starting from 26-8-1991.

### I. B.Sc. (Horticulture) and B.Sc. (Forestry) 4-Year Programmes

Admission shall be through a combined entrance examination to be held on 4-8-1991 at 9.00 A.M. at St. Luke's High School, Solan (H.P.)

#### ELIGIBILITY FOR 4-YEAR PROGRAMME

10 + 2/equivalent examination with English, Physics, Chemistry and Biology/Mathematics/Agriculture of a recognised Board/University with a minimum of 50% aggregate marks in the above subjects.

### II. B.sc. (Horticulture) 5-year programme

Admission shall be through a combined entrance examination to be held on 4-8-1991 at 9.00 A.M. at St. Luke's High School, Solan (H.P.)

#### ELIGIBILITY FOR 5-YEAR PROGRAMME

10 + 2 examination with English and Vocational Courses in Horticulture/Food Preservation and Processing from H.P. Board of School Education with a minimum of 50% aggregate marks in the above subjects.

#### RESERVATION FOR SCHEDULED CASTE/TRIBE CANDIDATES

Twenty two and a half per cent ( $22\frac{1}{2}\%$ ) of the total seats shall be reserved for candidates belonging to Scheduled Caste (15%) and Scheduled Tribe ( $7\frac{1}{2}\%$ ). The minimum qualifying marks for these candidates shall be relaxable by 5%.

#### OTHER INFORMATION

Last date for receipt of application is 22-7-1991 with examination fee of Rs.50/- and 29-7-1991 with Rs.100/- (Rs.50/- + Rs. 50/- as late fee). The fee is non-refundable even if the candidate is not found eligible to appear in the entrance examination.

### III. Master's Programme

Admission to Master's programme would be on the basis of the performance of candidates in the qualifying examination.

Last date for the receipt of admission forms for M.Sc. in respect of following disciplines is 19-8-1991.

#### a) Horticulture (Interview on 23-8-1991 at 11.00 A.M. at the University Campus)

1. Fruit Culture & Orchard Management
2. Fruit Breeding & Genetic Resources
3. Post Harvest Technology
4. Vegetable Crops
5. Floriculture & Landscaping (Provisional)
6. Mycology & Plant Pathology
7. Entomology & Apiculture
8. Biotechnology

#### b) Forestry (interview on 24-8-1991 at 11.00 A.M. at the Uni. Campus)

1. Forest Biology & Tree Improvement
2. Silviculture & Agroforestry
  - i) Silviculture
  - ii) Agroforestry
3. Forest Products & Utilization
4. Soil Science & Water Management
5. Economics
6. Biochemistry
7. Microbiology
8. Plant Physiology
9. Statistics

#### ELIGIBILITY

B.Sc. (Hort./Fty./Agr. 4-Year programme)/B.Sc. with OGPA 6.00/10.00 (2.70/4.00) or its equivalent under course credit system or first division under annual system (Relaxable by 5% for inservice as well as Scheduled Caste and Scheduled Tribe candidates) from a recognised University.

Order of preference for admission to M.Sc. is given in the prospectus.

#### RESERVATION FOR SCHEDULED CASTE/TRIBES CANDIDATES

Same as given for B.Sc. (Hort) and B.Sc. (Fty.) 4-year programme

#### GENERAL INFORMATION FOR ALL

- i) Prospectus-cum-Admission Form can be had from the Registrar on payment of Rs. 15.00 at the Counter and Rs.25/- by post through Crossed IPO in the name of the Comptroller of this University. NO MONEY ORDERS/CHEQUES ARE ACCEPTABLE.
- ii) No separate letter for entrance examination/interview will be issued.
- iii) Candidates should attend entrance examination/interview at their own cost on the specified date and time and bring original certificates with them.

B S Nainta  
REGISTRAR



# UNIVERSITY NEWS

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## IN THIS ISSUE

Issues in Collegiate Education	3
Teaching of Science through Distance Education	8
Affective and Perceptual Open Learning	10

### Convocation

Andhra Pradesh Open University, Hyderabad	13
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### Campus News

Refresher Course on Environmental Science	16
Refresher Courses in Library & Information Science	16
IGNOU Course Goes Multilingual	16

### Agriculture

Improvement of Casuarina Mycorrhizal Symbiosis	17
PAU Soil Test Training Camp	17

### News from UGC

Countrywide Classroom Programme	18
Assistance for CDCs	18

### News from Abroad

Teach As Long As You Can	19
National Student TV for France	19

Research in Progress	23
Theses of the Month	25
Classified Advertisements	27

Opinions expressed in the articles  
are those of the contributors and do  
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the Association.

Editor :  
SUTINDER SINGH

# Teaching of English at the Tertiary Level

## Focus on English Language Teaching Centres

Shivendra K. Verma\*

It has been felt for quite some time that the teaching of English at the tertiary level in India has not been successful, primarily because the learners' experience of English has been confined to only literary-text-based contexts, very few role-relationships and a limited number of speech functions. Their communicative competence in English is limited to their ability to produce formal, literary discourse. No attempt has been made to help them exploit the possibilities of what they have or what they have learnt—their knowledge of formal grammar and their exposure to literature. The question then is : How should we go about revitalising the teaching of English at Colleges & Universities? We do not seem to have a clear picture of the aims and objectives of teaching English at these levels. Note that these objectives cannot be described in isolation. They will have to be formulated in terms of what we perceive our needs for English to be at the national, state, and individual levels.

Since 1950 several UGC-funded Review Committees and Commissions have suggested ways in which the teaching of English can be reorganized and made need-based, focussed, and 'relevant'. There has been a general agreement on the need to modernize the English language courses and to train teachers for the teaching of English as a language. In 1955 the UGC appointed a committee under the chairmanship of Pandit H.N.Kunzru to examine the problems connected with the question of the medium of instruction and also to recommend measures to ensure adequate proficiency in English at the university-stage. One of the important recommendations of the Committee was the following :

"It is desirable to have the question of courses of study in English and methods of teaching English at the university stage examined by an expert body and the recommendations of that body adopted by all the universities".

In 1958 the Commission convened a conference of English teachers to consider the recommendations made by the Kunzru Committee. The conference devoted itself to a consideration of the problems of teaching English at both the pre-university and the university levels. Since then we have had a number of reports of committees on the teaching of English at the tertiary level. The committees have recommended : 'function'-centred syllabus reform, production of new teaching materials, training of college and university teachers of English, and bringing about changes in the examination system. In order to implement these recommendations, a variety of UGC-funded workshops, seminars and summer institutes have been organized. These activities have resulted in

- (i) the introduction of language-oriented courses at the undergraduate & postgraduate levels,

\*Director, Central Institute of English and Foreign Languages (CIEFL),  
Hyderabad-500 007

16 JUL 1991

C. P. T. B. I., MYBO



- (ii) encouraging researchers to work on topics and projects related to the effective teaching and learning of English at the university level,
- (iii) deputing teachers to the CIEFL for doing Diploma, M.Litt. & Ph.D. level courses under the Faculty Improvement Programme, and
- (iv) the creation of senior positions in ELT and Applied Linguistics in the P.G. Departments of English.

Language planners and teachers have begun to feel that the teaching of English at the university level should be re-organized keeping in view the roles and functions of English vis-a-vis the roles and functions of the dominant state languages and Hindi. Another general realization that has come to educators is the need for the training of college and university level teachers: training not in the traditional sense of 'pumping' knowledge but training as interaction — as a process of self-development. One of the salient features of this interaction-centred view of training is that teachers are learners & learners are teachers. The Academic Staff College may be considered a by-product of this realization. In the specific field of English language teaching/learning, it was felt that just as at the secondary level, state-based and regional institutes of English have been set up, at the tertiary level English-teaching units/centres should be established.

The University Grants Commission at its meeting held on 29th August, 1983 considered a note from the Ministry of Education and Culture, Government of India, regarding the Prime Minister's suggestions for the improvement of the standards of the teaching of English in India. The Commission appointed a committee to suggest measures for the improvement of the teaching of English in India. On the basis of the recommendation of the Committee the Commission agreed to provide -

financial support to universities for the establishment of a small Centre or Unit for English Language Teaching (not necessarily as a part of the Department of English) with experts to initiate programmes for the training of teachers of English language and preparation of appropriate teaching materials.

The main recommendations of the Committee are listed below :

- i) Two or three English language teaching centres may be set up in each state keeping in view the areas & number of universities in the state. To start with 50 such centres may be set up. The

universities, where the ELT Centres are expected to take up such programmes, may be strengthened with additional inputs.

- ii) The aims and objectives of English language teaching centres should be :
  - a) to introduce need-based courses;
  - b) to provide remedial courses for weaker students;
  - c) to provide for programmes in English teaching relevant to the needs of other subjects/disciplines; and
  - d) to equip the university/college students for using English language effectively for professional and communicational purposes.
- iii) In order to achieve these objectives the ELT Centres should undertake the following tasks :
  - a) Prepare curricula and instructional materials for different courses from the very elementary ones to the relatively advanced ones, from skills-related courses (e.g. reading, writing, speech to ESP courses — courses for professional needs.
  - b) Offer courses to professionals (lawyers, engineers, doctors) charging fees for the service. This fee-income should be used to build the resources of the Centre.
  - c) Organise training programmes for teachers of affiliated and constituent colleges with or without help from the central agency and/or other institutions that may be in a position to offer such training and also to coordinate and monitor the ELT Programmes in colleges.
  - d) Offer advice and assistance to individual colleges in terms of their specific needs, help them produce materials of different kinds, where necessary/possible, offer them assistance in terms of experts as well.
  - e) Disseminate new ideas and help the introduction of new courses, improved curricular designs, new aids and technologies.
  - f) Undertake research activities and survey projects related to above.
- iv) The Committee recommended that every ELT Centre should have the following academic staff :
  - 1. One Professor
  - 2. Two Readers
  - 3. Two Lecturers

(Contd. on page 7)



# Issues in Collegiate Education

K. K. Bajaj\*

College education has been extensively dealt at a reasonably high level of competence to show that it is an important pathway to national progress. In this system the teachers have a greater social responsibility to shoulder. As the students get exposed to new educational avenues and combinations in the colleges, the teachers acquire and offer a new dimension in teaching learning process. The entire corpus of educational activity in colleges means new challenges and opportunities both for the students and the teachers. Teaching involves organisation of learning. Besides being a verbal skill, it is the art of integrating the subject specific material to an optimum extent and its communication at the level of the pupils. The effectiveness of the flow of information determines the quality of teaching. Holding together of students in groups may indicate the success of a teacher but the process implies that there is sufficient persuasive interaction on sharing of knowledge between the students and the teacher. The teacher's self confidence, his knowledge of the subject and his communication skills contribute to the quality and merit of his teaching. All these qualities are acquired through hard work and professional inputs. There are no universal shortcuts or programmes that can bring about these qualities overnight in a teacher. Our new Policy on Education emphasized strategies aimed at improving the quality of teachers through a number of modernising means and incentives. The need for packages of awareness for linkages between education and philosophy, between pedagogy and management, between personality and development, have made the system complex. All the same strengthening of research and teacher involvement raise expectations in the system.

All these attempts are made basically to encourage the role of teachers in the development of colleges because the teachers cannot be bystanders to watch the things take their own shape particularly for the worse. It is the collegiate system now which is under sharp focus and no educational planner can afford to ignore this contingency. The colleges feed and support the entire structure of higher education. Though the system is enormous in its reach, scope and application yet it has to be given proper thought particularly at some central

national level for its teachers and other issues so that it could be evaluated for remedial measures in proper perspective. The broad issues that require immediate attention are the opening and management of colleges, recruitment, conduct and participation of teachers in the management besides their professional enhancement and student interaction. The courses that the teachers have to teach, the level of the students who are to be taught, the environment in which the entire exercise is to be made and the management under which it is to be done, all these have to be seen and understood in the present age for the assured development of the colleges. It is unfortunate that most of the educational activity at the college level is linked to white collar jobs both for the students and the teachers. The colleges, while they cannot turn out the products ready for the market to be instantly absorbed, become seats of dissatisfaction and discontent rather than any kind of educational enterprise and development. The teachers can neither help the situation nor can they mitigate it. Over the years the entire environment has changed but the setup in the colleges with their casual attendant philosophy, has not changed. New modes in the field of education have been introduced but the response in the colleges has remained almost unchanged. Alternately, a number of correspondence courses have emerged and earned qualified credibility. These have not been able to substitute the existing craze for degrees from regular colleges. This has put additional responsibility on the college teachers. If unemployment seems to be the terminal point of our education at present, the educational inputs require to be reconsidered and improved. There is no doubt that the student teacher interaction vis-a-vis the courses have been rendered irrelevant and inconsequential all through and that the system requires to be renovated in the changed context and experience. But the fact remains that all educational problems ultimately get aggregated around the teacher who is the pivot of the system.

## Relationship with Universities

With the phenomenal increase in the number of colleges in the country during the past over forty years the issue has become all the more critical. The imperatives for the opening of colleges in different parts vary from sociological considerations to political compulsions. There are colleges where managements cannot afford the salary bill of their staff on one hand while on the other hand there are colleges which are opened to market education and earn social recognition and sup-

\*Dean of Colleges-cum-Director, College Development Council, Himachal Pradesh University, Shimla 171 005



port with heavy financial inputs. All the same the recruitment and professional competence of teachers also offer varying levels for consideration and comment. Each college is seen as a seat of learning by students who come out of their schools with fancy ideas, but the level of teaching is not all that equal. The variation is attributed to a number of factors that go in the establishment and management of the colleges besides the participation and role of the state governments and the affiliating universities in the determination of their courses. The affiliating universities normally prescribe the courses and sit on the fence and at times oversee the colleges accepting the credit for all that is good in the collegiate system while ignoring and relegating its weak points and lapses to the college teachers, managements and the system as such. Affiliation is a formal legacy of the British times and has since lost its sanctity and relevance with the universities with their busy schedule thereby distancing themselves from the colleges. The universities affiliate the colleges and leave them alone except for the conduct of examination, and award of degrees. The universities hardly contribute anything to the growth and enhancement of the level of teaching and teacher improvement in the colleges. The universities' authorities have no time to come out of their own campus problems and departmental affairs to take care of this sector of higher education which however continues to feed the universities. The university bodies are all for university affairs and not for the colleges. Though the linkages between the universities and the colleges at the academic level cannot be denied yet the extent and nature of these so far have been peripheral and not organic and intimate. The vertical mobility of college teachers in this direction can hardly be seen or is at best negligible. So the teachers in the colleges are left on their own in the matter of determining and devising their own delivery system with regard to academic exercises for the college students. Besides the norms and procedures for the affiliation of colleges that are followed by the universities and which have also been prescribed as guidelines by the University Grants Commission (UGC), the colleges once granted affiliation keep on looking to the universities for all kinds of academic leadership which is undefined and at times illusive and which may at times be of political nature. This hardly helps the matters under the prevailing circumstances. So the networking that might exist between the colleges and the universities may, at best, be of an apologetic nature rather than of a practical partnership type. The interaction between the universities and the colleges does not contribute anything to the enhancement of the level of the colleges at least in their development and consolidation of system.

## Faculty Improvement

It is in this context that the college teachers have to activate: their interest and involvement in the development of colleges. The question of development of colleges in the absence of proper support of their management or the government is usually raised at all levels. The nonperformance of universities in the task of the development of the colleges is often attributed to the fact that the universities are not financed for doing anything for the colleges either by the UGC or the state governments. The schemes offered by the UGC for the faculty improvement in favour of college teachers, and other assistance packages are just not enough in the present context because of procedural delays and the known redtapism all-around. The universities have no priority attention cells for the problems of the colleges. There is no monitoring of the level of teaching and the execution of other academic or curricular programmes in the colleges. The College Development Councils wherever these exist in the universities have not much of an active role to play for the colleges, as the same have not been integrated in the university system and are treated only as appendages surviving on UGC Plan grants. The UGC does not even provide for their database, equipment, mobility and communication setup.

In the non-government privately run colleges, the management is an important constituent to ensure the maintenance of the level of teaching. At times the malpractices that accompany the recruitment of the faculty, commit the teaching level to eternal mediocrity. The participation of the university nominees in the selection process, though of a mandatory nature, is usually manoeuvred to suit the process to accommodate the sponsored candidates thereby making the whole system a farce and a predetermined affair. The university experts prove that minority constituent who cannot hold out against odds. Now that there is no dearth of competent and properly qualified teachers anywhere, at least in the conventional subjects, only such teachers require to be appointed in the colleges as have qualified the National Entrance Test held either by a university or the University Grants Commission. No compromise in this direction should be allowed while granting approval to such teachers by the affiliating universities if we are serious to maintain the level of teaching in the colleges run even by the private managements. The government colleges should, however, continue to recruit teachers through the state public service commissions as usual. The teachers thus recruited should be put to a regular orientation programme in the established Academic Staff Colleges at the earliest to enable



them to acquire the package of self confidence inputs to be successful teachers. The existing teachers should be offered incentives and appropriate avenues to update their knowledge of their respective subjects and know of technological advances in teaching. This will enable them to survive in the present day world and offer to their students those courses and knowledge modules as would hold them through in this competitive world. Even the conventional subjects call for improvement through knowledge of group psychology in the present age. It should not be seen as a formality in the profession but should be taken as a compulsory acquisition for survival. This planned assistance to teachers can lead to improvement of teaching standards and bridge gaps in information.

### Student Services

Another issue in the colleges is the management of the student services. The students who enter the colleges after completing their school education have to be given subject specific guidance and have to be shown the way to their responsibility. Besides this, the facilities such as are for confidence building, sports, vocational knowledge, hobbies, and library habits, should be encouraged. The science students who are busy throughout the day can hardly have any time for the college library which is normally kept open for five to six hours a day. For their convenience the library hours should be so adjusted as to give them ample opportunity to sit in the library and read and consult books. Otherwise this facility stands minimised or even deprived to them. Similarly the students should have their teachers available to them for the solution of their difficulties after the classes when they are free. UGC has definite guidelines on the subject of minimum number of teaching days and the academic calendar to be followed in colleges. The teachers who leave the college immediately after their classes deprive their students of this much needed facility and that is how round the corner teaching shops offering tuitions get encouraged. The managements and the state governments should ensure the presence of teachers for some fixed hours in the colleges for this. Even teachers should ensure that through their presence the students, particularly the weak ones, get the benefit of their guidance. This would even otherwise supplement their classroom efforts and improve the quality of their teaching and student performance. This will infuse confidence among the students and make them more disciplined.

Teachers and courses are linked to each other. The courses which are obsolete and irrelevant require to be discontinued forthwith. There should be no vested interests in continuing the old courses which *inter alia*

mean wastage of time and promotion of book industry and repetitive notes from one generation of students to another. The knowledge is ever replenishing and so should it be for all the teachers and students. There should be no escape from reviewing the courses every three to four years. The universities wherever involved in this exercise should be more committed to this policy and show the college teachers the way through the academic leadership of its teachers in boards of studies etc. As an important duty towards the colleges the universities should invite the college teachers to all such periodic academic exercises as improve the information banks on specific subjects. If the participation of college teachers in the academic exercises or workshops in specific subjects at the universities is not encouraged, the hiatus between the college and university teachers will continue to increase. The universities are going to admit what the colleges are to produce. There has to be no doubt about it. There is no escape from this compulsion except an ideological snobbery on the part of a section of university dons which too is now an outdated belief rather than a reality. The sooner there is coordination between the university teachers and the college teachers the better would be the system of higher education and improvement will take place through mutual interaction.

### Financial Support

Without adequate financial support no system can operate. In a college where new books and equipment are to be added every year, new infrastructure has also to be added to cope with the increasing demands pushing the enrolment figures. New courses require to be added besides provision for student amenities, hostels and avenues for cocurricular activities. The state governments give support towards the payment of salaries in nongovernment affiliated colleges and the colleges run by them. The constituent colleges of the universities draw their financial requirements from the parent universities. The grant-in-aid rules in respect of colleges vary from state to state. Where adequate grants are available, the going is good and even capital projects are undertaken besides the regular payment of salaries to the staff. But where the grants are not sufficient and the managements too are not able to provide for the smooth running of the colleges, malpractices like underpayments to the staff, improper utilisation of grants from other sources, can be seen in abundance. This is a dimension which brings about the unfortunate deterioration in the smooth functioning and *inter alia* teaching standards of the colleges. The UGC has affiliation guidelines to be followed by the universities but as yet there are no guidelines for the grant-in-aid to the



nongovernment affiliated colleges to be followed by the state governments, as such. Over the years this has become an acute problem which has brought about untold malpractices in the system. Linked to this is yet another dimension which is the political dimension. With the democratic liberalisation that has come to stay in our polity expectations have increased. The students as also the teachers in the colleges look up on universities as consuming a lot more than could be justified in their eyes for their survival and enhancement of the level of higher education in the name of research. It is argued that as universities promote elitism in education at places and subjects while acting as parking places for most of the students, the colleges are made to starve in the process. In fact the colleges also require greater attention so that their students could meaningfully terminate their studies and settle in life rather than go to the universities for yet another time frame in the hope of getting a job in the market. The mismatch between the college education and the university education calls for a fresh debate to remove this asymmetry in the system. There should be no distinct disparities between the two. Instead there has to be living relationship and networking between the two in the over all interest of the system. Only thus can the vertical mobility be assured both among the students and the teachers.

### College and the Community

Society has a lot more to expect from the colleges, in terms of their products and delivery system. The students in the colleges are not exposed to hard realities of the social compulsions and environmental demands. The problems that the country is facing now should be made known to them. The illiteracy that is ever on the increase in terms of ever increasing population should be introduced to the youth in the colleges and their help solicited to remove this. Along with the academic packages the youth force requires to be mobilised for the eradication of poverty and illiteracy in the villages. The students have to be made aware of this grave social inadequacy so as to invite them to help remove this. Their involvement through the ongoing NSS programmes should be more articulate, meaningful and positive rather than cursory and paper-based. The villages should be adopted in the right earnest and given the imprint of the students' participation and contribution in the task of their improvement. Population education, environmental awareness, social responsibility, should be the tasks inculcated in the poor folk to guide their way to health and survival. But what is being taught in the colleges is mostly the old combination of courses and irrelevant course contents that have gone unchanged during the last over forty years without social or industrial linkages. Communication strategies have also not been updated. The old styles in teaching have

continued to the perpetuation of our set patterns and no improvement has been brought home in the system on account of the ignorance of our teachers in the absence of proper leadership programmes either emanating from the universities or the state governments or the UGC. The scenario continues to be bleak and discouraging. There used to be Planning Forums in our colleges. The practice was conceived with all pious intentions to be imbibed in the socio-economic thinking of the country. Planning as a habit was envisaged to be promoted among the students at the college level. An attitudinal change was anticipated to bring about the desired change in outlook. But this has gone waste. This requires to be revived with greater inputs and incentives. The students exposed to planning fundamentals through the planning forums in the colleges could be involved in grassroot planning in panchayats and at other different levels of society. Efforts require to be revived on the basis of experience gathered from this innovation and after removing its shortcomings, this should be strengthened. This will help giving students yet another much needed avenue to attain consciousness towards the planned social progress through their participation.

Colleges are situated in different social environments and areas. Some of the colleges are located in rural and backward areas while others are in cosmopolitan cities catering to the needs of the elite of the society. The level of students in the two is bound to be different. Students from the two competing for a common job perform differently. While equal social opportunities cannot be denied to all in this age of democracy, the varying level of facilities has considerably contributed to the difference in the performance level of the students coming out from the two institutions. As the colleges in the big cities attracting large enrolments on competitive basis and run either by the government or the rich managing committees offer better facilities, the colleges in the rural areas are starved of funds and stammer for survival with poor enrolments. They exist as proforma colleges without even bare minimum facilities either for their teachers or for their students. This is a situation which enhances social disparities and leads to social discontent among the students who hold the same degree from the same university. The universities have no role to play in ensuring the availability of prescribed minimum facilities in all affiliated colleges either in cities or in rural areas. That's why the results also show a great disparity. The students from the cities score better than the students from the rural or tribal colleges even when the courses are the same. The awareness levels differ considerably in both the cases. The UGC has also not offered any substantial scheme or package to obviate this disparity.



Thus a number of issues stalk the spectrum of collegiate system. The inability of the state governments, the universities and the UGC to strike a right balance through their interventionist role has precipitated these over the years leading to the increase in complication of issues. The dissatisfaction among the students, the teachers and the personnel at large, operating the systems, has escaped the notice of most of our planners. The academic and financial solutions wherever offered have been piecemeal and of subsidised nature besides being short lived. The trivialities had the better of our attention in planning for the stability or viability of universities rather than the colleges which indeed should have attracted greater attention of our educationists. The universities have not played their leadership role and have remained occupied only with

campus compulsions and pressure groups.

It is under these circumstances that the college issues linked to its teachers, students, courses, management, finances, viability and performance levels vis-a-vis situational and cultural relativism, have become all the more poignant and pressing and call for reappraisal at the levels of the state governments, universities and the UGC, besides our educational planners. Collegiate system is a significant component of our higher education and requires to be sustained in its totality to enable it to become a befitting support system and feeder channel for our university education. Our national progress is linked to it. We can ill-afford to pay less attention to it and at any rate to sustain our democratic setup and to contain our youth.

## Teaching of English at Tertiary Level

(Contd. from page 2)

The Head of the Centre should preferably be a Professor.

At a meeting of the Coordination Committee on ELT Programmes held in the Ministry of Education, Govt. of India in New Delhi on 30 January 1985 it was suggested that these centres be located at those universities which have organized summer institutes in English. This will facilitate the taking-up of post-Institute follow-up programmes.

We feel that these Centres/Cells have a very important role to play in the field of English Language Teaching at the tertiary level. Their main activities can be subcategorized into the following :

### a) organizing

- (i) language-based courses to strengthen the teaching of English at the Undergraduate, Honours, and Postgraduate levels;
- (ii) short orientation programmes for teachers of affiliated and constituent colleges;
- (iii) remedial, need-based, and ESP-type courses;
- (iv) enrichment courses for in-service teachers.

### b) implementing the recommendations of the Curriculum Development Centre,

### c) helping the Academic Staff College of their area organize refresher courses in English, and

### d) undertaking research and survey projects related to the problems of ELT at the tertiary level.

Please note that the thinking underlying this scheme is not to create a dichotomy between literature teaching & language teaching but to reinforce the point that language draws its life-giving nourishment from literature and literature uses language as its vehicle.

We recommend that in order to make these Centres active and functional, they should be strengthened in terms of academic staff, infrastructural facilities, and project grants by the U.G.C. and the Ministry of Human Resource Development, Government of India. Lecturers working at these centres should be offered teacher-fellowships to do post-M.A. Courses in the teaching of language & literature at Centres like CIEFL.

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# Teaching of Science Through Distance Education

Anjni Koul\*

## Introduction

We are living in the scientific civilization. There are countless manifestations of Science all around us. However, there is no aspect of man's life today which has not been influenced by Science one way or the other. Science has shrunk the world and totally changed the human outlook. In fact, Science now has an all pervading influence on every human activity and it has gone beyond its limits also. The modern society is completely in the ambit of scientific environment. Science has become an integral part of our life.

The wonderful achievements of Science have glorified the modern world. The advancements of science and technology and the use of these scientific instruments in promoting the wellbeing of mankind through their application in the field of industry, communication, transport, engineering, agriculture, medicine and printing have made Science more important in the present than ever before. Science has, in fact, radically transformed the material environment of the citizens of the modern world. The Education Commission (1964-66) has highlighted the importance of Science as "the Science has profound contributions to our culture and its development. It is liberating and enriching the mind and enlarging the human spirit. Every advancement in Science deepens our understanding of nature but it also heightens the sense of ignorance. Nothing comparable to the scientific revolution in its impact on man's development and outlook has happened since the neolithic times".

The Education Policy Resolution of 1968 envisaged a radical transformation of education system to relate it more closely to the lives of the people through science based education. It would sustain intensive effort to raise the quality of life of man. The National Policy of Education (1986) has recommended measures for cultivating scientific temper among the masses to increase productivity and to live a scientific civic life. In the meantime, new learning needs would arise from the inexorable march of economic and social growth and progress in science and technology. Jawaharlal Nehru, our first Prime Minister, said in his convocation address

*\*Department of Chemistry, Himachal Pradesh University, Shimla.*

"Science has opened up tremendous new vistas which wait to be explored, and of adventure there is no lack, especially in India today".

## Science Teaching

University Education Commission (1948-49) advocated the importance of Science teaching at all levels of education and emphasised that "Science has made tremendous progress in the world and India cannot oscillate in this scientific age. Education Commission (1964-66) recommended, "the Scientific outlook is required to be developed in every individual through science education that should be imparted in the educational institutions in order to broaden the vision of the people and science education should be made compulsory to make progress in all the spheres of human life. 15th International Congress of Genetics was held in New Delhi in 1983 and in this Conference it was realised as 'indeed the impact of science was distinctly felt by the Scientists and they propounded the profound idea of taking science to the rural areas so that the rural masses can be acquainted with the new technology of increasing production'.

In India, now, we have felt the need of Science teaching to the children and youth at various levels of education but India has 40% literacy and still 60% people are illiterate who cannot develop scientific outlook unless proper education is given to the people. Therefore, teaching of everyday science for every body has become an unavoidable part of general education. The scientists believe that Science inculcates certain special traits peculiar to it and which no other discipline can provide. Science learning provides training in scientific method and also helps to develop scientific attitude in the learner. We have to provide knowledge of Science to every citizen. T.H. Huxley in his essay, "Science was Beautiful" pleaded for the inclusion of science in general education emphasising that learning of science can develop favourable outlook in the learner.

## Distance Education Channel

Distance education in India, started quite late, but it has made tremendous strides on the Indian education panorama. It has become popular among the needy who desire education in their later part of life. Due to scientific advancements, the human needs have in-



creased, therefore, all types of education including science based education can go a long way to help the individual to increase his economic standard by way of imparting education to all through distance education channel. Iyan Illich professed the importance of education to those who could not afford to enter the portals of Institutions and now there is need to inculcate scientific outlook among those who desire it. Silverman in his book entitled "*Crisis in Classroom*" also advocates for providing scientific education to every individual in order to lead civic and hygienic life.

Beside its wider access to education for all, distance teaching significantly reduces the time-scale for mass education. Its quick 'start up' potential is major force in assuring the realisation of continuing education goals. Distance education has potential, flexibility and vitality to popularise science education among the masses of India. It has capacity to enable the individual to learn science at his own pace, place and time, costs much less and if earnestly taken yield the same brilliant examination results as formal education. Inter-disciplinary options are possible if we provide subject-mix and media-mix science education to the masses.

#### **Science Teaching in Athabasca**

It is a unique Institution which has developed a new methodology, process, content and courses for the distance learners. This Institution is first of its kind to provide facility to distance learners to pursue courses in a scientific manner. The courses are more scientific in nature and course models are objective based. The learners are pursuing courses in various disciplines, science courses are commonly opted by the distance learners. The Foundation courses of this University are exemplary models for other Open Universities. The learners are extended full help in pursuing science courses at graduate and undergraduate level.

#### **Unique Experiment of Science Teaching in India**

Annamalai University has started the following Science Courses for the learners through distance education. It is considered to be a unique Institution in India which has taken lead to popularise science education in India. It has provided opportunities to those professional people who are keen to acquire following Post-graduate degree in Science :

1. M.Sc. Physics
2. M.Sc. Mathematics
3. M.Sc. Chemistry
4. M.Sc. Zoology

5. M.Sc. Botany
6. Diploma in Concrete Technology and Design of Concrete Structure
7. Diploma in Construction Management
8. Diploma in Chemical process Instrumentation & Control
9. Diploma in Maintenance Management
10. A.M.I.E., (Mechanical/Electrical/Chemical)

These Science Courses are job-oriented and a large number of candidates desirous of attaining specialisation in the field can learn and earn through distance education channel. Most of the teachers who have been teaching in different Schools in the country have got second opportunity to receive higher education in Science.

#### **IGNOU's Role in the Promotion of Science Education**

Science Education is a vital input in modernisation and development of the country. World Education Commission (1972) commenting on the need and relevance of science based education has rightly observed that educational institutions are a decisive factor in training men in modern tools to contribute to the development of society. In order to provide access to large section of our society for receiving science education to inculcate scientific temper, the Indira Gandhi National Open University can play a leadership role in promoting science learning among the younger generation.

Science is the most inexhaustible store-house of knowledge. It is opening horizons of knowledge everyday, ever increasing new knowledge, new explorations and new ideas. It has made man aware of the vastness of the unknown in the universe. In fact, Science is the only discipline which can bring to the nation unlimited growth. Therefore, IGNOU plans to embark upon a new scheme of introducing science teaching at undergraduate level through distance channel. It has 170 Study Centres in the country and these Study Centres would provide Instruction in Science and develop Science laboratories. But at the initial stage it would seek the help of formal Colleges for utilizing their laboratories for its learners. This would generate awareness among learners about science that would create new vistas for the distance learners. It would prepare modules for the learners and the units of the curriculum would be broadcast on T.V. and distance learners are sure to acquire new knowledge while being at home or in the office.



# Affective and Perceptual Open Learning

P.N.Pandit\*

It is often lamented that the quality of education in our country has steadily declined. There is a tendency all around to toe the line of a mercenary examination system which engenders rote-learning and commercial shortcuts.

Although education should be geared to the attainment of a job and the ability to earn one's livelihood, we would be doing incalculable harm by ignoring the need for affective and perceptual learning in our students. That would be no better than throwing all vital sustenance overboard while hanging on to the boat.

Affective learning means the fostering of positive attitudes not only to one's own self but to the human and non-human world that continually interacts with us. Lack of affective education is primarily responsible for severe disorientations in human personality. Perceptual learning aims at the honing and sharpening of critical abilities which help us gain insights into the working of natural phenomena and human personality. It stimulates us to ask about the 'why' and 'how' of things, to see the implications of events and actions. It is rightly said in this context that many have eyes but see not and ears but hear not. The ancients in India advocated 'pratyaksha' (explicit) and 'paroksha' (implicit) 'gyan' (knowledge).

IGNOU with its open system of education and wide diffusion base can play an important role in shaping the affective and perceptual consciousness of its learners. Having overcome spatial constraints by correspondence materials and a national radio & T.V. network that covers 85% of the population, it can reach a catchment area that comprises employed people, drop-outs, housewives, disabled people and people living in rural and remote areas of our country.

Though most of the programmes offered by IGNOU are vocational in nature, they have a strong affective and perceptual base. For instance, the Foundation Course in Science and Technology deals with diverse aspects of the scientific world and natural phenomena in relation to man. There is so much ignorance about food in our country, popular fads about fancy foods that lack nourishment value and weigh heavily on the

domestic purse. It is in the course in Food and Nutrition that these misconceptions are laid bare. And how much food is destroyed in a hot climate owing to poor storage systems! There is need to be aware of this in a country where the majority of the masses don't get one square meal a day. Are we ignoring our children? What implications will this have on their future? Will they turn out to be crippled in personality? These grave consequences of lost childhood are dealt with in the course in Child Care and Development. There is an interesting block in the Diploma in Management, entitled "Managing Men" to which one learner reacted by asking "Can we really manage such unpredictable and slippery creatures?"

I think there is still much further scope for developing this affective and perceptual base to open learning. For instance, we are raving mad and going gravelly over "the race to save the planet". Ignorance and apathy in the common man about daily consumerism is resulting in colossal wastage of both material and consumerism and human resources. We do not use devices to measure these leakages in our economic Chernobyl, but they would amount to much on our debit side. On the one hand we talk of financial planning and on the other we let its roots wither away. Penny wise and pound foolish! Or is it the other way round? Our courses can discuss questions like: Can we cut down an electricity bills and cooking gas expenses? What about non-conventional sources like solar heat, wind and dung? Can we use these wisely as supplements? What are five or six useful tips for saving on petrol costs for our vehicles? Can we recycle some of our domestic waste? How do we buy discriminatingly when we are being dinned by ads all around? What are some rules of thumb to prevent theft, vandalism and crime at home and terrorism outside? What about first aid in fire, traffic and occupational hazards?

I am sure these questions are discussed by various voluntary organisations and the government and media, but they need to be disseminated even more vigorously in non-technical lay language which shows with irrefutable accuracy the waste we are responsible for. It must stir us to self-sympathy. It has not yet come to us with the impact of a thousand tonne meteor!

We need 'awareness courses' of various types. There is one which can whittle down deep-rooted social evils

\*Reader in English, Indira Gandhi National Open University (IGNOU), Maidan Garhi, New Delhi - 110 068.



like preference for male children, dowry, superstition that cuts into the very vitals of our reasoning, caste and communal hatred, intransigence in matters of birth-control, AIDS, drugs and alcoholism.

I think the IGNOU Foundation Course in Humanities and Social Sciences can help in developing various perspectives. The study of history can enlighten us about our prejudices and biases, the way people and communities behave and why they behave like this. This would soften our attitudes to a great extent. This should be supplemented with awareness about politics and its dirty games so that people are not carried away by mobocracy or demagoguery. Multiple perceptions of the past helps in combating wrong attitudes. A study of the origin of dowry and other evils like caste can help to disillusion us. More and more social studies must veer away from mere facts to perspectives. History should become more like Nehru's "Discovery" and "Glimpses".

Our courses must be designed to create an awareness about the governance of the country, the function of public facilities. It is just not enough to read the newspapers to know who are in the new cabinet. We must be able to see the implications of the rise or fall of a ministry. The policies of one Govt. overshadow all the echelons of our bureaucracy and governance. If Kuwait is annexed why should the cost of food go up? The intervening links in our learner's knowledge are missing — the hike in the price of crude and the increase in transport charges. What must be emphasized is the interconnectibility of all events and actions. If telecom waves and cables network the globe, so do the reticulations of our ideas!

We need logic not for inane polemics but for inducing and deducing reality. A number of available facts must be able to lead us with a fair amount of accuracy to a point of truth. Why is there such misery and poverty in a country like ours where the green revolution and industrialization has stepped up the availability of food and natural resources? Is it only because there are more mouths to feed? Or are there other factors involved like ineffective distribution of the resources, mismanagement and the ignorance resulting from illiteracy? Statistics is a valuable science for it sharpens our foresight and I may add hindsight. We use the data of the past to relate the cause and effect and adding the variables to the data about the present we can configure about the future with a fair amount of accuracy. And then we can plan to eliminate the shortcomings and improve the results. Now we use statistics for many valuable scientific purposes, but we can also use it for predicting how peoples and communities or society will behave and react in the future. I should like to coin the

term "affective and perceptive statistics" for ignorance of any such term that does exist. Given the data of the past, how are learners going to react to our courses in the future if we make necessary changes. What necessary changes are required in the preparation to presentation of our media packages? Why is that the value of audio and video is continually underplayed in our learning set up? Our learners must be able to think "laterally" not merely vertically. That is, they must be able to consider a matter from various angles, contradict assumptions and overcome the constipated form of thinking they are used to.

What about the attitude we have to our national heritage? Our art and culture, our dance and music? Young people are especially confused about these. They ape the negative side of western culture. I think it is harmless if one likes wearing jeans or that sort of thing and enjoys a bit of pop and disco, but what is harmful is loss of faith in our own culture. We need to re-install this self-respect in our hearts by drawing attention to the intrinsic beauty and 'spiritual' quality of Indian art and culture. I think a similar confusion exists about languages. Some pseudo-westerns think that speaking English and wearing jeans is to adopt a forward-looking stance in life, whereas 'bindi' and 'Hindi' give one away as insular and backward. This is as confused an attitude as thinking that taking strong liquor is indicative of broad-mindedness. I think we are equating the wrong things, the external with the psychological. The powers and abilities of the mind are not entirely dependent on the way we dress or what language we use. It is true that the style is the man and one's dress may give some indication of one's beliefs, and language does shape our way of conceptualizing but a man may still think differently from the way he dresses and develop intellectually irrespective of what language he speaks.

This leads us to questions of taste and the emotive quality of education. What are we to look for in a work of art? If I stand in front of a modern *chef de oeuvre* what do I notice? The fantastic orbs and geometric designs that defy interpretation? Feel, let yourself be swallowed in by the sensation created by the painting. This is what some surrealists and impressionists recommend. And when we read great works of literature what are we to look for? The point of conflict in a novel or a play? The development of a character, fall or ascension? We must be able to relate all these to our own lives and thereby enrich them. It is interesting to note that the arts course at the United Kingdom Open University, has a complementary structure and syllabus design. Each block studies a particular period with parallel units on literature, history, art and music. The



thinking in this is sound for what learners need is a holistic view not a one-pointed or synocopated one.

The study of literature should have a humanistic base and must affect the moral fibre of a learner, enrich the ozone of life. Besides the study of manners, climes and customs, it must draw attention to the evolution of character. It must show how avarice, self-seeking and unrestrained materialism lead to unhappiness. It must show like Arthur Miller in '*Death of a Salesman*' how the demands of dehumanized materialism on professional promotion can cause the spiritual death of a Willy Loman. Or, how the "chromium world" of Graham Greene can lead to a complete loss of meaning in existence. Education has much to do with making a person's life integrated and harmonious and so the vocational must not completely adumbrate the affective goals of learning.

The study of literature again, can help in developing a sense of humour. It is said that as a nation, we Indians lack a sense of humour. Is that a reason why communication breaks down between communities? It is said that if we laugh it is at others, never at ourselves. Those who have overcome this shortcoming have joined the greats of our times. It was Gandhiji who quipped "The King is wearing enough for the both of us!" when he was requested to visit the royal presence in more substantial clothes. This may seem like double entendre but Gandhiji was only trying to take it light. The works of R.K. Narayan and Khushwant Singh can be used to inculcate a sense of humour in our students. A sense of humour has a broader meaning than this. It means the ability to recognize one's own shortcomings and see the good in others and their beliefs and be able to take in criticism. An interesting exercise in our language courses uses what is called Thematic Apperception Test. A picture of some activity is given to the student. He must write a brief narration or story based on it. Then he must compare his story with that of his peers. No two stories are interpreted or projected in the same way. There are bound to be differences in the approach and emphases. This is to prove how unique is our vision of life. And for all we know we might be living in a hermetically sealed glass container through which we get a myopic glimpse of others. Shakespeare said what is true for all times:

"There is a soul of goodness in things evil  
Distil it if we may!"

IGNOU is particularly devoted to the educational upliftment of people who work at the grassroots. It can act as a cafeteria system for demand-based courses for the attitudinal and communicative requirements of staff

like office secretaries, receptionists, tourist guides, airhostesses, hotel stewards etc. Imagine the loss to the national economy when tourists and clients are 'cheesed off' by the poor response or inarticulateness of those that have to do the public dealing. How often has one entered an office and made an enquiry only to be looked at quizzically over bureaucratic spectacles or rebuffed by a laconic "Hamein Kya Maloom?"

The Language Courses at IGNOU, especially the English Course in Communication Skills, aims at developing not only receptive and recognitional skills, but proper orientation in attitudes through speech and writing. Attitudes are conveyed through the phonological and syntactical patterns of a language and grave consequences follow when communication is faulty. For a language which has so much wide currency in national growth and international relations, we can ignore such skills only at our own peril. An interesting feature of this English course I have just mentioned is how to read newspapers critically. In this connection I should like to mention the role of semiotics or signs in language. The cartoons in a newspaper are an acid test of whether one has the correct perspectives in current affairs. 'Pick up a paper' I would tell our students, and look at the cartoon with its brief caption. Does it trigger off a whole chain of ideas about some recent goings-on? If it doesn't, you are not keeping an courant!

IGNOU has scope for open experimentation in the development of affective and perceptual skills. It has a study centre at the Blind Relief School at Delhi run by a blind co-ordinator. And it's certainly not a case of the blind leading the blind! Much research is carried out into the way blind, deaf and spastics respond to life around them. Effort is made to shore up their self-respect and to inculcate normal attitude to living despite handicaps. There are plans afoot to reach the confines of prison walls. Would Mr. Shobhraj like to extend his knowledge of law and life?

I think I am rambling. I should like to conclude by saying that educational planners should not waste time on the accumulation of facts only. That a printed book, microfiche or computer can store a vast amount of data for retrieval at will, proves that the brain and intellect must be reserved for higher functions. Education must open up the proverbial "third eye" in man so that he can see the unity of all knowledge in the correct perspective, in a 'gestalt' or unified whole, so to say. The foundation of human personality is still his affective and perceptual abilities without which he is like a town built in a hurry without planning and then dug up to lay the telephone cables and the sewerage.



# Future of Distance Education

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"Distance Education will play an integral part in the effort to globalize education for the harmony and understanding of mankind....that networking relationships among institutions in the region will make it possible to bring education across national boundaries to make all of us feel much closer together in this interdependent world", said Prof. Dr. Wichit Srisa-an, Permanent Secretary for University Affairs, Thailand, while delivering the convocation address at the Fifth Annual Convocation of the Andhra Pradesh Open University, Hyderabad. Excerpts

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The selected theme is Distance Education for a Changing World which deals with looking ahead into the future of distance education. I am speaking today not in the capacity of futurologist, but rather to persuade all of you here this morning to help define what the future may hold for all of us and the implications that exist for distance education.

At present, a considerable number of academics have volunteered their services as futurologists. There are the prophets of doom who

It stands to reason that if we are to propose new directions for distance education for tomorrow's world, we should have, however tentative and imperfect, a perspective of what the world might be in another decade or so. I venture to suggest the following future trends which seem to be of paramount concern to all of us:

## 1. Continued acceleration of scientific and technological change

Advancements and develop-

information society that used to be only an intellectual abstraction is now taking shape and will become a reality in the next decade.

## 2. Increasing rate of communication within and between countries

Communication within and between countries utilizing information technology will be more rapid and widespread. Modern breakthroughs in communications enable people in different countries to learn about each other through visual contact which never before existed in the history of mankind. Faster means of transport and advances in telecommunications have subsequently made the world smaller. People are now able to communicate widely and speedily with every region of the world.

## 3. Greater level of global interdependence

The changing world of the future will be characterized by increasing cooperation. The nations of the world will become more closely bound together in a web of economic, social and technological linkages. The changing of cultural values is likely to be intensified in the cause of modernization and global interdependence. Perhaps such interdependence among countries in the world may bring harmony, but it could also lead to greater complexity in the problems facing mankind. Nevertheless, we certainly hope that greater interdependence will lay a foundation of global awareness and understanding for a peaceful world in the future.

## 4. Rapid obsolescence of knowledge and greater degree of insecurity and uncertainty

The future world will be a rapidly changing world. The rapid advancement of technology will make it necessary for people to always keep abreast of new developments. The

# CONVOCAATION

predict a nuclear holocaust and a quick end to the planet earth. And there are the optimists who have visions of a utopia born out of continuing technological developments and a faith in human beings' ability to use them for universal well-being and social justice. Being neither a prophet of doom nor a utopian, and most certainly not a professional futurologist, I therefore wish only to present the thoughts and speculations of futurologists whose views I have read and heard elsewhere as issues for your consideration.

ments in science and technology, especially microelectronic technology, have played an important role in transforming society into an information society. A study on new jobs created in the United States during the 1970's have revealed that only 5% were in the field of manufacturing and about 90% involved information, knowledge or service. It is most certain that information technology will have a strong impact during the next decade on developed as well as developing countries. It may be said that the



eternal search for knowledge will be stepped up. Life-long education for continuing self-improvement of everyone in society will become commonplace.

If these future trends, are to become a reality in the next decade, the management of education, which is essential to prepare citizens for tomorrow's world, will have to undertake a critical appraisal of current principles and practices in a spirit of open and innovative inquiry. A critical question is "how do we prepare tomorrow's citizens today?" What essential knowledge skills and attitudes need to be inculcated in tomorrow's citizens? What we need to contemplate for the coming decade is the fundamental change in our view toward educational philosophy and practices in light of the changing conditions of society.

The present decade could be considered the decade of educational reform. Educational programs in various countries throughout the world are being criticized for failing to respond to the needs of societies that are rapidly changing. Education is being attacked as inefficient, inferior in quality, and not sufficiently development — oriented for the modern world. Commissions have been set up to seriously study, analyze and offer guidelines for educational reform. There have been numerous reports dealing with educational reform at both the national and the regional levels, the latter of course dealing with matters international in scope. In this region, Asia and the Pacific, major educational reforms are taking place in a number of countries. It is interesting to learn that, whenever there is educational reform, the matter of distance education is inevitably an important component and there are always proposals for development in this area.

I would like to take this opportunity to share with all of you some of my thoughts and experiences on distance education as an integral element of educational reform in Thailand and many countries around the world. Several emerging trends are now evident:

#### **1. The wider application of distance education methods within the conventional educational system**

The rapid obsolescence of knowledge and the greater role of information dissemination in modern society have gradually increased the demand for universal access to education. Governments everywhere now realize the significant contribution of education to the social and economic well-being of the country. Educated individuals become human resources for national development. It is a fact that, in this increasingly competitive world, only countries with well-informed, well-educated human resources will survive. This has led to the reform of educational systems in many countries from a traditional elite system to a more open and diverse system of education so as to build a base for the future stability of the society.

In higher education in particular, evidence has shown that reform has moved distance education into conventional institutions. Many universities are now two-mode universities employing both conventional and distance delivery systems. In Thailand, for instance, continuing education and extension programs represent one of the fastest-growing areas in Thai universities. In Australia, a majority of universities now admit both on-campus and off-campus students and heavily utilize distance-learning methods for these non-traditional students. In the process of disseminating knowledge to a wide range of clientele, these programs also intro-

duce to the higher education community the role of mass media as an alternative to traditional modes of learning. The far-reaching effects of distance education have made it a securely established feature within conventional universities and have gone even further to put traditional modes of learning under public scrutiny.

We have now come to witness a strong and persistent demand for mass education as opposed to elite education. While the merits of both types of education can be appreciated, distance education as a means of expanding educational opportunities is evidently taking over, if not replacing, the conventional ways of teaching and learning.

#### **2. The increasing role of hi-tech media in distance education**

The next decade will see open universities employing a more sophisticated delivery system using integrated media and advanced technologies as a means of reaching out to greater numbers of people with greater efficiency. Electronic media will particularly play a significant role in enhancing and diversifying the system of distance education. In the near future, we may see more widespread use of computer-assisted instruction, individualized learning, video libraries, and direct telecasts through satellite, all of which will make education more accessible to people from all walks of life. Through multi-media distance education utilizing technologies of the future, the notion of life-long education will become a reality. In the United States there has already been discussion of a birth-to-death curriculum and birth-to-death delivery system of education. Although this may sound very technology-intensive and perhaps too distant for most other countries, I hope that we at least appreciate such developments in distance



education. In fact, such developments may not be as far away as we might think.

### 3. The emerging networks among distance - education institutions

The state of development in information technologies and telecommunications has now made it possible to set up cooperative networks among distance-education institutions at the national, regional, or international level. A concrete example is the National Technological University in the United States which involves many campuses and industries being linked together through advanced telecommunications systems. A special lecture by a Nobel-prize chemist at the main campus can now be simultaneously seen and heard via satellite by thousands of other students sitting hundreds of miles away at other campuses and offices. In Southeast Asia, there has been a similar attempt to establish a satellite network among countries in the region, and we look forward to seeing such a network bring new dimensions to our educational systems.

As information technologies are now shrinking the world into satellites, and fax machines, rapid internationalization of social, cultural, as well as economic elements in countries around the world is inescapable. Under such a trend toward internationalization, we will also see new forms of global education emerge as a means of bringing together people from different social, cultural and economic backgrounds.

Above all, distance education will play an integral part in the effort to globalize education for the harmony and understanding of mankind. I am very optimistic that networking relationships among institutions in the region will make it

possible to bring education across national boundaries to make all of us feel much closer together in this interdependent world.

To conclude my address to all of you, I would like to just simply say that life-long education in this rapidly changing world is not a mere rhetorical statement anymore but an absolute necessity for modern living. Distance education is therefore emerging very strongly as an answer to the desire for knowledge of everyone in society. Distance education will not be a supplementary mode of learning anymore. It will become the principal mode of

learning for the majority of people in the future. In Thailand, already over 10% of all students at the tertiary level are now enrolled in open universities, and the number keeps rising. Ten years from now, we may be able to achieve the goal of life-long learning through distance education. Let us hope that by that time, education, in all its diverse forms, will be universally accessible to meet the intellectual and professional needs of everyone in the society.

Let us regard distance education as a mission we must accomplish and a challenge we all accept.

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## Communication

### Cultural Gauntlet — Any takers ?

Anand P Srivastava's article "Effective Teaching and the Teacher's Mind" (*University News*, March 4, 1991) makes interesting reading. But an idea of A. De Riencourt quoted in the article deserves to be picked up and analysed more critically. According to De Riencourt, "the Indian mind ..... ignores systematically the metaphysical and spiritual significance of time and history". In point of fact, it is the Indian mind's addiction, so to say, to metaphysics and spirituality that has rendered it less effective and dynamic in evolving a distinctively new Indian ethos in keeping with the modern situation. Edward Shils, renowned American Sociologist, has said that unless India achieves intellectual independence in the contemporary world, she can't hope to be regarded highly or taken seriously by the rest of the world. Therefore the answer is : revitalize the typically Indian ideas already familiar and import into them our

new experiences and elicit a new impulse and a new imperative like the poetic revolution of wordsworth and Coleridge. For example : The theory of *Karma* should be interpreted in such a way as to suggest wiping out of the harmful effects of the old *Karma* with the scientific and secular efforts of the new *Karma* of modern India. That is *Karma* should be seen as a positive, progressive and creative action not as a negative, obscurantist and destructive drag. Will our university and college teachers take up this cultural gauntlet and shape the character of the new generation of students in the light of this experience of the truth ?

S.R.Narayan Rao  
Dr. A.V. Baliga College  
of Arts & Sc.  
Kumta -581 343 (Karnataka)



## Refresher Course on Environmental Science

The Academic Staff College of the University of Calicut organised a 4-week inter-disciplinary refresher course in Environmental Science from May 13 to June 8, 1991. Thirtynine teachers drawn from the departments of Chemistry, Botany, Zoology and Life Science participated in the Course.

The Course was an attempt to project the importance of inter-disciplinary approach in Environmental Science studies. It consisted of classes on basic ecology and special lectures on ecocrisis, gene pool, species diversity, biosphere reserves, forests and wild life, environmental law, social forestry, endangered flora and fauna, forests rain fall and climate, water conservation, pesticides, environmental impact assessment, ecology and development and people and environmental protection. Case studies on the Pollution of Chaliyar River by Gwalior Rayons, Narmada Valley Development project, Silent Valley and Kut-

cussion on Global change in climate was held. Prof. M.K. Prasad, Pro-Vice-Chancellor, Dr. A. Achyuthan, Director, Academic Staff College, Dr. K.S. Manilal, Dean of the Faculty of Science, Dr. K. Unnikrishnan, Professor and Head of the Department of Botany participated in the discussions.

### Refresher Courses in Library & Information Science

The Aligarh Muslim University organised two 4-weeks UGC's Refresher Courses on "Information Management and Special Libraries" and "Trends in Library Management". Eminent Library and Information Scientists and Librarians of the country were invited to act as Resource Persons. Professor N.N. Faruqui, Vice-Chancellor, AMU, who was one of the Resource Persons, took a session on "Multi-media processing and libraries".

## CAMPUS NEWS

tanad Development project were also made. Video films on Narmada Valley project and Kuttanad Water Balance Studies were shown in addition to several video films on wild life in National Geographic series.

The participants also undertook a study tour of Nilambur, Nedungayam and Kanjiramkadavu in the Western Ghats.

World Environment Day was celebrated on June 05, 1991. As part of the celebrations, a panel dis-

14 participants in the Ist Course and 23 participants in the IInd Course, coming from the various parts of the country attended the Courses which were conducted under the auspices of Academic Staff College of the university.

The university also proposes to conduct refresher courses on (i) Academic Libraries : Management and Operations; and (ii) Information Management in Libraries and Specialised Centres during Aug./Sept.

1991 and Jan./Feb. 1992 respectively. Further details may be obtained from Prof. Mohd. Sabir Husain, Department of Library and Information Science, Aligarh Muslim University, Aligarh 202 002.

### IGNOU Course Goes Multilingual

The Indira Gandhi National Open University (IGNOU) will now offer its course in Food & Nutrition in seven languages viz. English, Hindi, Gujarati, Telugu, Assamese, Tamil, Malayalam from January 1992. Launched in 1988, the course aims at knowledge and understanding of the basic facts related to Food & Nutrition, Nutritional problems, Consumer awareness of the right regarding food.

The University expects to enroll about 3000 students this year.

Application Forms for this multilingual programme are available from 23rd June '91.

### Somatic Embryogenesis Technique Developed by RRL

Scientists of Plant Tissue Culture group of Regional Research Laboratory (RRL), Jammu have succeeded in inducing somatic embryogenesis from yellowish, compact, nodular callus of Saffron (*Crocus sativus* Linn Family : *Iridaceae*). The embryoids were scattered over callus with distinct yellowish embryogenic tissue. Embryoid formation was non-synchronous due to which embryoids of different stages, globular, heart shaped and torpedo type were seen growing side by side. Torpedo type embryos were bipolar



and whole structure resembled miniature plantlet. *Crocus sativus* plant is an infertile, autotriploid which reproduces only vegetatively through corms. Due to sterility crop improvement through conventional plant breeding methods is difficult. Somatic embryogenesis technique will prove to be useful for:

- (i) Rapid multiplication of elite clones,
- (ii) Inducing variability.
- (iii) Development of artificial seed technology in saffron.

## IGNOU Regional Centre at Patna

The Indira Gandhi National Open University (IGNOU) has established a Regional Centre at Patna. Located at 170-A Patliputra Colony, this is the 16th Regional Centre of IGNOU for coordinating the activities of various Study Centres in respective regions.

It is expected that with the establishment of this Centre, communication between University, Study Centres and students shall be further streamlined.

## PAU Soil Test Training Camp

Dr. G.S. Gill, Director of Extension Education of the Punjab Agricultural University while presiding over the concluding function of a Seminar on Soil Testing-cum-Training Camp said that despite decline in fertilizer consumption in Punjab, the production of foodgrains had considerably increased. This could be possible as the farmers of the state used fertilizer on soil test basis. He, however, cautioned the farmers to avoid indiscriminate use of insecticides and pesticides as these were injurious for human and animal health and also caused environmental pollution.

## News from Agril. Universities

### Improvement of Casuarina Mycorrhizal Symbiosis

The Indian Council of Agricultural Research (ICAR), New Delhi, has sanctioned the new scheme for taking up the collaborative research project on Improvement and Utilisation of Casuarina Mycorrhizal Symbiosis for Afforestation and Agro-forestry in India in the field of Science and Technology for Development between the University of Glasgow, U.K. and the Tamil Nadu G.D. Naidu Agricultural University with funding from European Economic Community.

The new scheme will be operated at the Forestry College and Research Institute, Mettupalayam. This collaborative research between the University of Glasgow and Aberdeen, TEAGASC Kinsealy, and TNGDNAU will facilitate the establishment at TNGDNAU of the first major centre in India for the study and improvement of microbial symbiosis with superior genotypes of casuarinas. Research initiated at

Glasgow will be developed in India to isolate culture and select elite strains of *Frankia* compatible with casuarina species. The selection of ecto and VA-mycorrhizal strains will adopt the procedures in use of Aberdeen University. The micropropagation procedures in use with woody plant species at Kinsealy will form the basis for research on Casuarina micropropagation.

Mr. R. Narayanan, Microbiologist of TNGDNAU has been identified as the Indian Co-ordinator (Principal Investigator) and this project will be operated under the administrative control of the Dean, College of Forestry and Research Institute.

The Scheme will result in the identification and isolation of best Frankie strains suitable for the selected superior genotypes of casuarina species so that productivity could be almost doubled.

At the seminar other experts of the University described the method of taking soil samples, use of fertilizer for different crops, control of insects and pests and diseases. They also advised the farmers to take up auxiliary occupations like dairying, poultry farming, rabbit farming, bee-keeping etc. to generate more income. Dr. M.S. Bajwa, Professor and Head of the Department of Soils of PAU underlined the importance of soil testing and said that rich soil inherited by us should be maintained well, so that we could pass on richer soil to posterity.

The Soil Test Training Camp is annually organized by the Department of Soil of the PAU to educate farmers about the importance of soil test and to collect soil samples from all over the state, so that the soil experts could make recommendations on the use of fertilizer which are a very costly input.



## Countrywide Classroom Programme

Between 8th July to 14th July, 1991 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

### Ist Transmission 1.00 p.m. to 2.00 p.m.

#### 8.7.91

- "Surface Tension"
- "What is quality?"
- "Dantiwada Project-Participatory Water Management"

#### 9.7.91

- "Electric Interaction in Chemistry"
- "Educational Technology - The Teleteacher - I"
- "Vitamins : The Protective Elements - II"

#### 10.7.91

- "Solar Research - VI"
- "Wild America : A Prairie Park"
- "Principles of Biosystematics - V"

#### 11.7.91

- "Emerging Trends in Computers"
- "Texture of Literature-II, Stylistics"

#### 12.7.91

- "Orthodontics"
- "Searching for a breakthrough"
- "Solar Passive House - I, The Principles"

#### 13.7.91

- "Non-Industrial Glazed Pottery and its development in India-II"
- "Career guidance - civil services"

#### 14.7.91

No Telecast

### IInd Transmission 4.00 p.m. to 5.00 p.m.

#### 8.7.91

- "Properties of Fluids - I : Viscosity"
- "Interpersonal Communication - II"
- "Pest Story-II : Biological Control of Water Hyacinth"

#### 9.7.91

- "Polarography - A Detective Technique"
- "Innovative Approach in Blindness Prevention"
- "Oils and Fats"

#### 10.7.91

- "Solar Research - I"
- "Jageshwar Shrines - II"
- "Marine Parks"

#### 11.7.91

- "Rails"
- "Oral Folk Tradition - VIL-PATTU"
- "Towards Better Spoken English-IV Word Accent"

#### 12.7.91

- "Norwegian Society : A View"
- "Conserving America : The Rivers - I"

#### 13.7.91

- "A Talk With Prof. Holme - I"

"Modern Paintings and Salvador Dali"

"Irshad Panjatan : The Pantomime - I"

#### 14.7.91

No Telecast

## Assistance for CDCs Extended

The University Grants Commission has decided to extend the financial assistance to universities towards the College Development Councils (CDCs) upto March 31, 1992. The universities have been informed that the UGC approval will lapse thereafter if the commitment of the respective state governments to take over the liabilities after March 31, 1995 was not available by the end of the current financial year (1991-92). On obtaining such assurance by the universities, however, the assistance by the Commission will be extended upto March 31, 1995.

Initially the Commission assistance to the universities for the CDCs was upto March 31, 1985 which was extended upto March 31, 1990. The Commission further extended the assistance upto March 31, 1991.

Under the CDC Scheme, initiated in 1977, 46 universities have so far established College Development Councils for proper planning and development of colleges as also to give them necessary guidance regarding development grants provided by the Commission. CDCs serve as an important link between the universities and the Commission in ensuring implementation of the schemes of the Commission meant for the college sector, and proper planning and integrated development of the affiliated colleges.



## News from Abroad

### Teach As Long As You Can

University lecturers and professors in the United States should be allowed to teach for as long as they are capable, according to a report from a committee commissioned by Congress.

This finding is expected to influence the legislature in two years' time when it considers whether to continue a law giving universities the power to force professors to retire at 70. It is expected that academics will be allowed to go on working as long as they like as part of legislation which outlaws mandatory retirement based on age.

Previously, university teachers were an exempt category under this law. But they are thought unlikely to continue to be so. The report, produced by a special committee of the National Research Council, found that most academics retired voluntarily before the age of 70 anyway.

When mandatory retirement is prohibited, it is expected that there will be slightly fewer vacancies in academe and that the average age of academics will rise.

Some colleges, particularly those involved heavily in research, might be hurt by low staff turnover, increased salary costs and the inability to respond to new needs and ideas, the report said. But the universities, could avoid the worst by offering out-of-touch professors attractive voluntary retirement terms.

The American Association of University Professors has come round to the idea of lifting retirement limits and believes there is little danger that staff will stay on too long. Dr. Ernst Benjamin, the association's general secretary, advocated allocating research laboratories and funds according to

the professor's ability to obtain research grants.

But some higher education experts questioned the report. They said that most institutions would be unable to afford the voluntary retirement schemes recommended.

### National Student TV for France

A national university television company, "TV Campus" is to be launched this October by French media and publishing magnate Lagardere. Starting out with 800 on-campus screens for a potential audience of 700,000 students, the company plans to reach 900,000 students on 150 campuses equipped with 1,200 screens by 1993.

TV Campus says it is the world's first national, federated university station. It is certainly worrying existing student-run stations, which are afraid their shoe-string efforts at television by students for students will go to the wall.

Students already making campus programmes have the choice of going on in the face of professional competition or becoming the local student association for TV Campus. Student associations will be given video and production equipment to make local programmes, to be screened at the end of the satellite-broadcast national programme.

Students have shown great enthusiasm for the chance to try their hand at television and, as they see it, get a foot in the door of a career in media or communications. While some existing student stations already have gone over to TV Campus, others may try to continue as before.

The national programme will be made up of practical information on university life, news of new courses, training opportunities and the job market, sports, arts and "fun" features.

### And now Thinking Computers

Japan's ministry of international trade and industry is to recruit foreign academics to participate in a 10-year research programme to develop computers that can emulate human thinking.

The "sixth generation computer project" aims to develop machines that can comprehend human speech, solve problems and be responsible for much of their own programming.

Japan's superior manufacturing and marketing skills, it is felt, would enable Japanese companies to use the project to win an increased share of the computer market.

Meanwhile, European and American scientists have benefited from the second round of grants to be awarded as part of the Human Frontier Science Programme, an international research programme initiated by Japan four years ago. Financial backing was Japan's response to international criticism over lack of research investment. The programme is concerned with research into molecular biology and the workings of the human brain.

The second round of awards included the issue of 32 new grants each valued at around \$250,000 a year over a period of three years. Scientists from the US submitted eighty applications and received 15 grants while British scientists made 31 applications and received four awards. German scientists made 17 applications and also received four awards, two more than that French scientists received from 23 applications. Japanese scientists submitted 29 applications and received three awards.



## A Messenger of Faith and Encouragement

S.V.Chittibabu\*

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Amrik Singh, Ed. On Being a Teacher. Delhi, Konark Publishers, 1990. x + 208p. Rs. 150.00

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To become a teacher is to court a life of commitment and sacrifice. Teaching is not a vocation but a calling, not just a humdrum profession but a noble mission. It cannot therefore be an asylum for those who are rejects from other walks of life. Only those who have a passionate zeal and an avid urge to teach should step into this field. For them the task is both stupendous and challenging inasmuch as it calls for a combination of such qualities as self-confidence, self-control, self-reliance, steadfastness, fairplay, determination, faith and understanding. If people gravitate to the teaching profession with expectations of monetary benefits and a life of ease and leisure, they would be discrediting themselves as well as besmirching the image of education. A true teacher is rich without riches, for his wealth is assessed not in terms of bank-balances but with reference to the admiration, loyalty and affection he has evoked in his students. A life of transparent honesty and unsullied sincerity, irrespective of any consideration is a *sine qua non* for successful teaching. Admittedly not every teacher can attain this. But unpretentious dedication to his work is not an unachievable task. If this is accomplished, the teacher

with a commendable degree of sensitivity which is otherwise described as empathy can turn out to be the kingpin of progressive, and purposeful education.

In this context the book titled "On Being a Teacher" is to be welcomed as a messenger of faith and encouragement to those who have for long been teaching as well as to those who are teacher-probationers and those who are seriously thinking of venturing into the teaching profession. Dr. Amrik Singh, who has edited this publication with a thought provoking introduction, is a Trojan educationist, a sober scholar of erudition and a critical thinker who has copiously written in a limpid style on almost all issues of Higher Education. He has now fulfilled a long felt need for a work dealing with problems involved in the exacting art of teaching as articulated by university and college teachers from their own varied experiences over a period of time. He has made the book exceedingly interesting and stimulating by presenting a collection of contributions from teachers with over fifteen years experience of teaching "different types of students in different settings and at different levels of understanding". To make it particularly appealing and positively useful to a wide circle of teachers in the domain of higher education, he has made a representative selection of contributions belonging to dif-

ferent university disciplines and teaching at more than one level. But then, as he himself says in his introduction, the focus of the book for obvious reasons is on teaching and not on research, though some of the contributors have incidentally made some pertinent comments on the nexus between teaching and research.

The several pieces that embellish the compilation arrestingly depict the agony and ecstasy experienced by their authors both within and outside their classrooms and the skilled strategies adopted by them to overcome their labyrinthian hurdles in the initial stages with insight, fact and understanding, with a sense of responsiveness to the symphony of the heartthrobs of their students. They furnish an overview, so to speak, of their perceptions, perspectives and proclivities as practitioners of the teaching art.

Let us take a few glimpses here and there : We see that to Prof. Bhabatosh Datta, a well known senior Economist, teaching has been a multisplendoured adventure with its own romance and thrill. But then he makes a point that teachers have a great social responsibility to discharge, if they are to merit public recognition.

Dr. Andre Beteille, a Professor of Sociology, feels that because of the steady erosion of university autonomy and the politicisation and bureaucratisation of academic life, teaching is becoming a 'declining profession'.

Prof. J.N. Kapur, a Professor of Mathematics, insists, and quite rightly at that, that teachers have to love teaching, love their subjects and love their students and such of those as do not place any value on the intangible benefits of their profession should get out of it.

In retrospect Dr. Pylee, an In-

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\*Former Vice-Chancellor, Madurai Kamaraj University & Annamalai University and President, Association of Indian Universities, AN-BAGAM, 4 Rajaram Mehta Nagar, Madras - 600 029.



dustrial Consultant, tells that as a teacher he found that success in handling student groups, big or small, depended on one's sincerity, patience and willingness to forget and forgive.

Professor Gore, a social scientist, sees in the teaching profession a cause and an opportunity and pin-points the role of teacher as one who ought to reinforce through word and practice a framework of values relevant to his time and place.

Dr. Kurien, a Developmental Economist, appears to have learnt that effective teaching needs to be relevant and must have two aspects of orientation, the inward and the outward — the first related to motivation and continuous renewal and the second related to the establishment of a close rapport between the teacher and the taught.

Dr. Rajagopalan, former Vice-Chancellor of an Agricultural University, says that his considered viewpoint is that being a teacher is like being a student "all through one's life, enjoying, sharing and contributing to the thrill of knowing, understanding, discovering and building new knowledge and human relationships".

Dr. Sidhu, a Professor of English, who is ardently in love with his teaching avers that were he to live his life again, he would most certainly choose to be a teacher, for the reason that his experiments with teaching in the genial company of his students have afforded him countless pleasurable hours, days and weeks, which have made his "search for authenticity" meaningful.

Professor Kranti Jujrekar, teaching Chemistry, observes that the real test of a science teacher lies in his successful performance of experiments in the laboratory to prove his

theoretical presentations.

Dr. Wakhlu, Principal of an Engineering College, emphasises that a teacher must fulfil three requisites viz. communication skill, creative intelligence and upto date technical knowhow in his subject and must keep himself engaged in research and consultancy work on real life problems.

Professor Madhu Kishwar of the English Department of a co-educational College, is not in favour of a woman teacher working in a Women's College because in her opinion the atmosphere in such an institution is far more 'tyrannical' than in a mixed college and is fouled by the authoritarian attitude of its Principal. She says that accepting the limitations of her role as a teacher within the given situation she has sought to build a human equation by giving up her fantastic ideas about 'inspiring students into great achievements'.

To the searching mind of Dr. Upendra Baxi, previously a Professor of Law and now a Vice-Chancellor, teaching and learning are acts of social intervention and they are complete when knowledge gathered through erudition is enriched by knowledge as an outcome of encounters that question the prevailing tyranny, injustice and exploitation in society. For him being a teacher in India is to be a "deeply fractured, deeply wounded being, constantly in throes of transition".

Dr. Suresh Goel, a Professor of Biological Sciences, affirms that as a teacher he has learnt that profound scholarship in the subject, uprightness in demeanour and impartiality in all dealings have paid dividends. He adds that if the teacher expects to be long remembered by his students he must guide and advise them in times of their

learning difficulties and help them in various academic matters too.

Dr. Amrik Singh views teaching as not a mere purveying of information but as an expert art of integrating what is being taught with what the student already knows so as to make it possible for him to acquire new insights and perspectives, with his curiosity and interests adequately enkindled. Further, he asserts that teaching demands unbiassedness and justice on the part of the teacher while dealing with students who like all human being are subject to emotional excitements and whimsical moods. He cautions that the one thing which students would not hesitate to ridicule is a teacher's pretentious claims to scholarship. On the contrary if the teacher is on a continual course of self renewal and self-improvement and shows evidence of his unrelenting search for perfection, he will command the warm respect of his wards.

Dr. Mc Leod, Professor of History, opines that university and college teachers need instruction in techniques of teaching and what is more they should have preliminary and continuing exposure to the strategies of the art, apart from having opportunities to participate in discussions germane to their role as teachers.

A reading of the book under review can hardly fail to evoke our appreciation and admiration for the teachers, whose pieces, written as they are in a crisp and arresting style, sometimes charged with emotion, unfold the saga of trials and travails undergone, humiliations faced and challenges accepted valiantly by them, before they could settle down to give momentum and vitality to their influence on the development of the personality and character of their students. Some of them, it is seen, had started teaching with doubt and hesitancy, some



others with a sense of curiosity and expectancy, and still others with reflection and introspection. But all of them have subsequently scored their triumphs with a growing sense of professional pride born of competence and unremitting service. In their gripping narrations we get cues and clues as to how teachers can instruct, inspire and illumine; how they can innovate teaching techniques with imaginative dexterity so as to sustain the interest of their students; how they can work miracles even without the pompous paraphernalia of external appurtenances; how they can discharge their obligation to take special care of the first generation learners, the educationally backward and the economically disadvantaged students; how they can contrive methods to tackle the complex and intractable issue of language medium; how they can rid the curriculum of its sterility and make it pulsate with vibrancy and social relevance; how they can make teaching and research enrich each other; how they can redeem higher education from the stultifying impact of the present archaic and effete examination system; how they can make use of the human factor to impress their charges with their genuine fervour, compassion and idealism; and how they can create and quicken in the students comprehension and assimilation of noble thoughts, noble traditions and noble values.

"On Being a Teacher" has come on cue and bids fair to serve eminently as a *vade mecum* for all those teachers in universities and colleges who are seized by the passion to pledge themselves to their chosen career, however formidable and daunting their task may be. Even those opting for teaching will find it to be a reliable guide to help them study the contours of the realm of teaching as well as the varying

complexions of its terrain and arm themselves with the necessary accoutrement to overcome impediments and attain professional competence and satisfaction.

It is unfortunate that today the montage of higher education is disfigured and defiled intermittently by the rough and tumble of current populist politics into which a small section of the teaching community has been driven by their "intellectual laxity and social discipline". In fact Dr. Amrik Singh in his introduction discusses this issue as well as a few other disconcerting problems in a candid and forthright manner. As pointed out by him, there can be no alibi for teachers to explain away either lacklustre performance or underperformance on their part on

the ground that professionals in other spheres of activity are giving no better account of themselves. Whatever others do or not, teachers cannot and should not stray away from their unique function of providing a dynamic motivation for youth, of unlocking their powers of creative vision and rousing in them a high concern for lofty ends which will accelerate the whole tempo of their life and widen the horizons of their reach.

In fine "On Being a Teacher" edited by the masterly pen of Dr. Amrik Singh deserves high commendation, for it leaves a profound impression, of something immeasurable and of something strikingly creative.

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### Communication

## Academic Freedom in Colleges

Please refer to S. Kumar's communication published in the *University News* dated 6.5.91.

In my article "Academic Freedom in Govt. Colleges: A Case study of Govt. College, Daman" all that I wanted to say was that academic freedom for teachers is a necessary condition for pursuing knowledge and creative research but not the only condition. Good quality of educational facilities and teachers' commitment and their devotion to the cause of knowledge and creative research are also essential. If in spite of sound infrastructural facilities as also academic freedom, teachers in his college are not producing results, then the fault may lie somewhere else and it requires separate investigation.

In Govt. College, Daman, given the quality of input (students ad-

mitted), academic environment and educational facilities, teachers are giving their best to undergraduate teaching. Many teachers in this college have contributed in the area of research through completion of various research projects of U.G.C., publication of research papers in the leading journals of their subjects, participation in the seminars and conferences etc. If these teachers are allowed academic freedom, they will certainly perform better in the area of postgraduate teaching and research.

Narayan Prasad Sharma  
(Ex-Lecturer, Govt. College,  
Daman)  
Lecturer in Economics,  
Agastyamuni  
(Chamoli)



# AIU Library

Established in 1965, the AIU-Library has acquired over the years a valuable collection of books and documents on Higher Education. Among the topics prominently represented are Educational Sociology, Educational Planning, Educational Administration, Teaching & Teachers' Training, Examinations, Economics of Education and Country Studies. Developing fields of Adult Education, Continuing Education and Distance Education, and Educational Technology are also well stocked. The library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of Higher Education. Files of Annual Reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to the AIU Library'.

The Library also receives about a 100 periodical titles on Higher Education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research Scholars and students of education are welcome to use these resources. The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

## RESEARCH IN PROGRESS

### A list of Research Scholars registered for Doctoral Degrees in Indian Universities

#### PHYSICAL SCIENCES

##### Mathematics

1. Guldeep Singh. **Some problems of nonlinear waves in elastic media.** Panjab. Dr Harinder Singh, Reader, Department of Mathematics, Panjab University, Chandigarh.

2. Jayasree, B. **Semi-group theory.** Kerala. Dr R Veeramony, Prof, Department of Mathematics, University of Kerala, Kariavattom.

##### Physics

1. Sidana, Gurpreet Kaur. **Weak decays.** Prof M P Khanna, Department of Physics, Panjab University, Chandigarh.

2. Surendra Singh. **Study of multiparticle production in neutrino-neon interactions at tevatron.** Panjab. Dr J B Singh, Department of Physics, Panjab University, Chandigarh.

##### Chemistry

1. Joshi, Ashok Kumar. **Vibrational analysis of hydroxamic acids and metal hydroxamates.** Devi Ahilya. Prof P V Khadikar, Department of Chemistry, Devi Ahilya Vishwavidyalaya, Indore.

2. Sankarykutty Amma, B. **Studies on identification and molecular encapsulation of ginger flavour constituents.** Kerala. Dr C S Narayanan, Head, Division of Food, Regional Research Laboratory, Trivandrum.

3. Tiwari, Anuradha. **Chemistry of silylated tosylhydrazines.** Panjab. Dr S K Vasisht, Department of Chemistry, Panjab University, Chandigarh.

##### Earth Sciences

1. Bhatia, Harjit Singh. **Deformation and metamorphism of rocks exposed around ANI, District Kulu, Himachal Pradesh, India.** Panjab. Prof R C Kanwar, Department of Geology, Panjab University, Chandigarh and Dr S P Kapila, Department of Geology, Panjab University, Chandigarh.

2. Sreenivasan, T S Anitha. **Geochemistry of beach placers of a part of the West Coast of India.** Kerala. Dr P K Thampi, Head, Geo Science Division, Centre for Earth Science Studies, Trivandrum.

##### Engineering & Technology

1. Aderami Adakoya. **Some studies on the design and off design of an axial compressor stage.** Delhi. Prof P B Sharma, Principal, Delhi College of Engineering, Delhi.

2. Masood Aghakhani. **Some studies on welding of aluminium - 7000.** Delhi. Prof Sunil Pandey, Department of Production and Industrial Engineering, Delhi College of Engineering, Delhi.

3. Mehta, Vandana. **Development and evaluation of a specific immunodiagnostic test for amoebiasis employing monoclonal antibodies.** Panjab. Dr R C Sobti, Coordinator, Centre for Biotechnology, Panjab University, Chandigarh and Dr V K Vinayak, Centre for Biotechnology, Panjab University, Chandigarh.

4. Sasikala, D. **Large displacement analysis of composite plates**



and shells. Kerala. Dr K V Valsarajan, Prof, Department of Civil Engineering, College of Engineering, Trivandrum.

## BIOLOGICAL SCIENCES

### Anthropology

1. Hazara, Tultul. **The study of phalangeal flexion creases and their inheritance.** HS Gour. Dr Ramesh Choubey.

2. Mallick, Soma. **The study of bracelet creases :Inheritance and their association with human abnormality.** HS Gour. Dr Ramesh Choubey.

3. Suprabha. **Interrelationship of body size between parents and their newborns.** HS Gour. Dr (Mrs) Kalpana Saini.

### Biochemistry

1. Dhamija, Sangeeta. **Biochemical evaluation of traditional drugs for the control of hyperoxaluria in rats.** Panjab. Dr (Mrs) S K Thind, Emeritus Medical Scientist, Department of Biochemistry, Postgraduate Institute of Medical Education and Research, Chandigarh and Dr (Mrs) Harmeet Sidhu, Department of Biochemistry, Panjab University, Chandigarh.

2. Malik, V B T. **Isolation, characterization of nephrocalcin in healthy subjects (control group) and in patients suffering from urinary stone disease.** Panjab. Dr Pushpa Ahluwalia, Department of Biochemistry, Panjab University, Chandigarh, Prof R Nath, Head, Department of Biochemistry, Postgraduate Institute of Medical Education and Research, Chandigarh and Dr S Vaidyanathan, Assoc Prof, Department of Urology, Postgraduate Institute of Medical Education and Research, Chandigarh.

3. Meenu. **Studies on ethanol effects of rat intestinal epithelium following dietary fat manipulations.** Panjab. Dr Akhtar Mahmood, Department of Biochemistry, Panjab University, Chandigarh and Dr S Ojha, Department of Biochemistry, Panjab University, Chandigarh.

4. Nagtilak, Suryakant Bhagwan. **Factors which along with iodine deficiency contribute to endemic goitre: An experimental study.** Devi Ahilya. Dr R Bhardwaj; Head, School of Biochemistry, Devi Ahilya Vishwavidyalaya, Indore.

### Microbiology

1. Chakrabarti, Bratati. **Selective delivery of anticancer drugs to macrophage tumor cells.** Panjab. Dr S K Basu, Director, Institute of Microbial Technology, Chandigarh.

2. Grewal, Rashbinder Kaur. **Role of cervical microflora and their extracellular products in cases of unexplained infertility in human females.** Panjab. Prof K G Gupta, Department of Microbiology, Panjab University, Chandigarh, Dr S Malhotra, Additional Prof, Department of Gynaecology, Postgraduate Institute of Medical Education and Research, Chandigarh and Dr Vijay Prabha, Department of Microbiology, Panjab University, Chandigarh.

3. Neena. **Comparision of the properties of elastase purified from different sources and their role in biological systems.** Panjab. Dr K G Gupta, Prof, Department of Microbiology, Panjab University, Chandigarh, Dr Vijay Prabha, Lecturer, Department of Microbiology, Panjab University, Chandigarh and Dr R K Jethi, Prof, Department of Biochemistry, Panjab University, Chandigarh.

### Botany

1. Anil Kumar, C. **Ecophysiology, reproductive phenology and culture studies of the species of Gracillaria from the Coast of Kerala, India.** Kerala. Dr M V Nadaraja Panicker, Department of Botany, S N College, Kollam.

2. Damodara Prasad, Priyadarsana. **Ecology and taxonomy of Charophytes of Kerala.** Kerala. Dr M V Nadaraja Panicker, Department of Botany, S N College, Kollam.

3. Jai Singh. **Taxonomic studies on some selected agaricales from North India.** Panjab. Prof G S Rawla, Department of Botany, Panjab University, Chandigarh.

4. Joshi, Pratima. **Ecology of waste water of dairy plant and its potential for methane generation and algal growth.** Vikram. Dr S R Billore, Reader, Department of Botany, Vikram University, Ujjain.

5. Lal, Charanji. **Studies on fungal diseases of grasses of North India.** Panjab. Prof G S Rawla, Department of Botany, Panjab University, Chandigarh and Prof M L Sharma, Department of Botany, Panjab University, Chandigarh.

6. Lawrence, Beena. **Tissue culture studies in Solanum melongena (Brinjal): Biochemical and cytological basis of somaclonal variations in the regenerated plants.** Kerala. Dr G M Nair, Department of Botany, University of Kerala, Kariavattom.

7. Sindhu, P. **Ecology, reproductive morphology, phycocottoid content and culture studies of the species of Gelidium from Kerala Coast.** Kerala. Dr M V Nadaraja Panicker, Department of Botany, S N College, Kollam.

### Zoology

1. Kaurav, Rajendra Kumar. **Biochemical studies due to the effect of dichlorvos in some tissues of fish.** HS Gour. Dr Subodh Kumar Jain.

2. Mishra, Arvind. **Comparative study of some clinical haematological parameters in some vertebrates.** HS Gour. Dr (Mrs) N Bhargava.

3. Thakur, Sanjay Singh. **Studies on the microbial degradation of chlorinated hydrocarbon insecticides.** HS Gour. Dr U S Gupta.

4. Sreekala, A K. **Pineal gland and reproduction in birds - an ethophysiological study.** Kerala. Dr Mathew M Oommen, Department of Zoology, University of Kerala, Kariavattom.

### Medical Sciences

1. Caplash, Neena. **Molecular and cytogenetic studies on cervical cancer in a North Indian population.** Panjab. Dr R C Sobti, Coordinator, Centre for Biotechnology, Panjab University, Chandigarh; Prof S Sehgal, Chairperson, Department of Immunopathology, Postgraduate Institute of Medical Education and Research, Chandigarh and Prof B D Gupta, Chairman, Department of Radiotherapy, Postgraduate Institute of Medical Education and Research, Chandigarh.

2. Pillai, Suseela, K. **Studies on the effect of pulsed magnetic field therapy and indigenous drugs on hypercholesterolaemia.** Kerala. Dr R Malathy Amma, Prof, Department of Biophysics, Medical College, Trivandrum.



# THESES OF THE MONTH

## A list of Doctoral theses accepted by Indian Universities

### PHYSICAL SCIENCES

#### Mathematics

1. Bhujanga Rao, M. The study of wave propagation in micropolar elastic solids. Osmania.
2. Gairola, Umesh Chandra. Doorik evam vanakh samashtiyon mein sampat sthir evam sankar binduyon ka astitva. Gurukul. Dr S L Singh.
3. Gaur, Mahesh Dutt. A study of slow past axisymmetric bodies in incompressible fluids. Rajasthan. Dr A N Goyal, Department of Mathematics, University of Rajasthan, Jaipur.
4. Goverdhan, C. On certain analogues of Carmichael conjecture. Osmania.
5. Jain, Raj Mal. A study of generalized Lauricella functions and multi-dimensional fractional integral operator. Rajasthan. Dr S P Goyal, Department of Mathematics, University of Rajasthan, Jaipur.
6. Jayasri, C. Studies on Bernstein-type rational operators. Kerala. Dr Y Sitaraman, Prof, 703, Princeton Parkway 14, Owensboro NY 42301, USA.
7. Mahalakshmi Sarma, Kandala Kanaka. Fuzzy normed linear spaces. Andhra.
8. Manna, Rohit Kumar. Transient gravity waves in a two layer fluid of finite depths. Calcutta.
9. Maqbool. Some bound state and scattering problems in quantum theory. Osmania.
10. Mohgaonkar, Satish Damodar. Applications of functional analysis and semi-group theory to some problems in magnetofluid mechanics. Nagpur. Dr R V Saray, Department of Mathematics, Nagpur University, Nagpur.
11. Sahoo, Makdam. Existence theory for some mathematical programming and associated complementarity problems. Sambalpur. Dr J Parida, Prof, Department of Mathematics, Regional Engineering College, Rourkela.
12. Singhal, Mukesh. A study of certain integral transform operator and allied special functions. Rajasthan. Dr A N Goyal, Assoc Prof, Department of Mathematics, University of Rajasthan, Jaipur.
13. Sukhendar Reddy, G. Stability analysis of some epidemic models. Osmania.

#### Statistics

1. Aruna Rao, K. Some results on generalised chi-square type statistics. Karnatak. Dr B N Nagnur, Reader, Department of Studies in Statistics, Karnatak University, Dharwad.

#### Physics

1. Aralakkanavar, Mallappa Kallappa. Studies on the spectra of some polyatomic molecules. Karnatak. Dr M A Shashidhar, Reader, Department of Physics, Karnatak University, Dharwad.
2. Banerjee, Swagata. Propagation characteristics of optical waveguides: Development of efficient numerical techniques. IIT, Delhi. Prof A K Ghatak, Department of Physics, Indian Institute of Technology, Delhi and Dr Anurag Sharma, Department of Physics, Indian Institute of Technology, Delhi.
3. Chakraborti, Abhijit. Voltage stability of longitudinal power systems. Calcutta.
4. Chaudhury, Nabo Kumar. Mechanism of photoreduction and

stereochemical aspects of axial ligation in some iron-porphyrins monitored by resonance Raman spectroscopy. NEHU. Prof A L Verma, Department of Physics, North Eastern Hill University, Shillong.

5. Girish, T E. Investigations on the structure of heliospheric current sheet interplanetary plasma and magnetic field. Kerala. Dr S R Prabhakaran Nayar, Reader, Department of Physics, University of Kerala, Kariavattom.
6. Kumareson, P. Studies on the effect of additives on crystals of gypsum grown in silica gel. Kerala. Dr S Devanarayanan, Prof, Department of Physics, University of Kerala, Kariavattom.
7. Praveena, D. Piezo-optic and electro-optic studies in ADP and KDP crystals. Osmania.
8. Veena Kumari, S. Surface oxidation studies of vacuum deposited Fe, Fe-Cr and artificially layered Fe/Al and Fe/Mg thin films. Kerala. Dr V K Vaidyan, Prof, Department of Physics, University of Kerala, Kariavattom and Dr K G Sathayanarayana, Head, Materials Division, Regional Research Laboratory Centre for Scientific and Industrial Research, Trivandrum.

#### Chemistry

1. Badrinath. Studies on impact of deficiency and toxicity of micronutrients in soils of Dakshina Kannada District in relation to soil properties and crop yield. Mangalore. Prof M R Gajendragad, Vice Chancellor, Kuvempu University, B R Project, Shimoga District, Karnataka.
2. Bhola, Manju. Chemical investigation of some Indian plants. Rajasthan. Dr Pahub Singh, Department of Chemistry, University of Rajasthan, Jaipur.
3. Chiranjeevi Rao, Modalavalasa. Analytical applications of some redox systems in acetic acid medium. Andhra.
4. Das, Dillip Kumar. Studies on metal complexes of some of the transitional and non transitional metal ions. Sambalpur. Dr B B Mahapatra, Lecturer, Department of Chemistry, G M College, Sambalpur.
5. Hawa, Shrawan Kumar. Studies on analytical applications of sulphur containing ligands. Rajasthan. Dr S P Mathur, Department of Chemistry, Government College, Ajmer.
6. Jindal, Ritu. Synthesis and biological activity of compounds containing heteroatoms. PAU.
7. Kodanda Ram Reddy, M. Mechanistic studies of some oscillatory reactions. Osmania.
8. Mishra, Bagmi. Physico chemical studies on some phosphates of lead in aqueous media. Berhampur. Dr P P Mahapatra, Lecturer, Department of Chemistry, Khallikote College, Berhampur.
9. Naik, Santosh Kumar. Studies on thiazolidinone derivatives. Sambalpur. Dr A Nayak, Prof, Department of Chemistry, Sambalpur University, Jyoti Vihar, Burla.
10. Olaniya, Mahendra Singh. Studies on heavy metals content in city refuse, compost and sewage sludge and their impact on environment. Osmania.
11. Pardhasaradhi, Vasireddy. The kinetics of chemical change in the condensed phase. Mangalore. Dr B Thimme Gowda, Prof and Chairman, Department of Chemistry, Mangalore University, Mangalagangothri.
12. Rajan, Mini N. Kinetics of solvolysis of some alkyl phenyl carbonyl chlorides. Kerala. Dr K Saramma, Prof, Department of



Chemistry, University of Kerala, Thiruvananthapuram.

13. Sarada, S. Thermodynamic properties of electrolyte solutions: An EMF study of the activity coefficients using ion-selective electrodes. Osmania.

14. Sharadamani, P R. Kinetics and mechanism of bromination and oxidation of some organic compounds by N-bromoacetamide. Osmania.

15. Sharma, Namita. Synthesis and characterization of some hydroxamic acid derivatives. HP.

16. Singh, Ratan. Electro-chemical studies of some complexes of metal ions with ligands of biological and physiological importance at dropping mercury electrodes. Rajasthan. Dr D S Jain, Assoc Prof, Department of Chemistry, University of Rajasthan, Jaipur.

17. Tikku, Shiella. Physico-chemical studies of the metal chelates of 2,3-dihydropyridine and 2-amino-3-hydropyridine. Rajasthan. Dr S P Mathur, Department of Chemistry, Government College, Ajmer.

18. Tiwari, Vivek. A kinetic study of catalysed oxidation of some alcohols by chlorite ion. Vikram. Dr S K Solanki, Reader, Department of Chemistry, Vikram University, Ujjain.

19. Tripathy, A K. Chemical study of some Indian medicinal plants. Ghasidas. Dr K R Gupta.

#### Earth Sciences

1. Atchuta Rao, Narahari. Genesis and exploration of some bauxite deposits in Balaghat, Rajnandgaon and Surguja Districts, Madhya Pradesh, India. Andhra.

2. Awasthi, Rajesh Parsad. The study of geology and impact of coal mining on the environment in part of Singrauli coal field. Vikram. Dr R R Nandgavkar, Prof, Department of Geology, Vikram University, Ujjain.

3. Chacko, Shajan T. Palaeomagnetic studies of the Siwalik

subgroup of sediments at Kishenpur of Jammu, India. Osmania.

4. Jettaiah, P. A study of elastic properties of rocks for geologic appraisals by some seismo-acoustic methods. Osmania.

5. Mukherjee, Arunangshu. Phosphogenesis in precambrian rocks of Durg District, MP. Ravishankar. Dr M W Y Khan, Department of Geology, Ravi Shankar University, Raipur.

6. Rajasekhar Reddy, Konda. Clay deposits around Majjuri and their beneficiation studies, Gadag schist belt, Karnataka, India. Karnatak. Dr S C Puranik, Reader, Department of Geology, Karnatak University, Dharwad.

7. Ramesh Babu, P V. Petrology, geochemistry and mineralisation in parts of the Bastar-Koraput pegmatite belt, Madhya Pradesh and Orissa, India. Osmania.

8. Verma, Parmod Kumar. Great boundary fault of Rajasthan, its evolution age and the nature of neotectonic movements. Vikram. Dr K K Singh, Chancellor, Jiwaji University, Gwalior.

#### Engineering & Technology

1. As, Madarchandra. Some studies on metal-insulator-semiconductor devices. Calcutta.

2. Das, Sukomal Kanti. Some studies on ionospheric electron content and electron density irregularities at low latitudes. Calcutta.

3. Patel, Lakhan Kumar. Isomorphism and other properties of kinematic chains and mechanisms. Ravishankar. Dr A C Rao, Principal, V R Sidharth Engineering College, Vijayawada.

4. Premchand, Parvataneni. Textures: Their characterisation and discrimination. Andhra.

5. Rangapathy, V. An analysis of flood routing methods and identification of routing parameters. Anna.

6. Sreenivasan, K. Studies on the diffusion of physiological fluid molecules in polyurethanes. Chitra Tirunal. Dr K V C Rao, Managing Director, ABR Organics Ltd., Hyderabad.

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## MOTHER TERESA WOMEN'S UNIVERSITY

### 13, RACE COURSE ROAD, GUINDY, MADRAS -32

### NOTIFICATION -71

Application in the prescribed form is invited from women candidates for the post of one DTP Operator in the Department of Computer Science at Mother Teresa Women's University, Madras -32.

#### Qualifications

1. A graduate degree with a good grasp of English.
2. Knowledge of word perfect 5, Ventura, Pagemaker, PC Paint Brush and d Base III with work experience of minimum two years in all these softwares.
3. Experience in proofreading a variety of materials.
4. Ability to operate HP Laserjet Printer III, and Canon Scanner.
5. Typing-English-Higher

Pay : Rs. 1200-30-1560-40-2040 (Tamil Nadu Government Scale of Pay)

#### Note

1. The University reserves the right to shortlist the candidates.
2. The University also reserves the right to fill up or not to fill up the post/posts.
3. Candidates already in service should send their applications through proper channel or they should produce "No Objection Certificate" from the employers at the time of interview, if called.
4. The Selection Committee reserves the right to relax the qualification or experience in exceptional cases.

Applications form will not be sent by post after 10.7.91 and applications received after 16.7.91 will not be entertained.

Applications can be had from the Registrar, Mother Teresa Women's University, 13, Race Course Road, Guindy, Madras - 32, on requisition accompanied by a Demand Draft from Rs.20/- drawn in favour of the Registrar, Mother Teresa Women's University, 13, Race Course Road, Guindy, Madras - 32 and a self-addressed envelope stamped to the value of Rs.3/-.

REGISTRAR



## CLASSIFIED ADVERTISEMENTS

**Office of the Principal**  
**SIKKIM GOVERNMENT COLLEGE**  
**POST OFFICE TADONG - 737102**  
**SIKKIM**

NO. MRP/91 Dated :14th June, 1991

Applications are invited from persons who have qualified at NET/GATE Examinations for award of a Junior Research Fellowship to serve in a Major Research Project entitled "L-Amino Nitrone - A Synthetic Potentiality of 1,2 - Isoxazolidines" sponsored by University Grants Commission under the supervision of Dr. Aloranjana Ghosh, Department of Chemistry of the College.

The terms and conditions of the award will be governed by the UGC rules. In the absence of NET/GATE qualified candidates, the award may be granted to a candidate securing 55% marks or B+ in M.Sc. Degree preferably in Organic Chemistry.

Applications giving bio-data and attested copies of relevant testimonials should reach the undersigned within three weeks from the date of publication of advertisement.

**R. K. Rai**  
**PRINCIPAL**

### **GULBARGA UNIVERSITY** **NOTIFICATION**

In continuation of this office Notification No. GUG:ADM-I/91- 92/941, dated 12.6.1991 the last date for receipt of applications for various vacant Teaching Posts is extended to 15th July 1991.

**P. Bore Gowda**  
**REGISTRAR**

### **TILAK MAHARASHTRA** **VIDYAPEETH**

(Deemed University)  
**ADVT. NO: 91-92/3**  
**Date: 17 June 1991**

Applications are invited in the prescribed form for the post of Registrar. The last date for the receipt of applications is 20 July, 1991.

#### **Unrevised Scale of Pay**

Rs. 1100-50-1550-75-1700 plus allowances as approved by the Government of

Maharashtra. (The pay-scale of Rs. 1500-2250 on par with other non-agricultural universities at present will be given on receipt of approval of the Government of

Maharashtra. Further, scales of pay as per Fourth Pay Commission will become applicable in case the Government extends these scales to non-agricultural universities

## **INDIAN COUNCIL OF MEDICAL RESEARCH**

Applications are invited upto **26th July, 1991** for the following posts of Research Officer in the scale of pay Rs. 2200-75-2800- EB-100-4000/- at the Regional Medical Research Centre, N.E. Region (ICMR), Post Box No. 105, Dibrugarh, Assam.

#### **1. Research Officer (Parasitology) - One post**

**Qualifications and Experience :** Essential - i) MBBS/1st Class M.Sc. in Parasitology from a recognised University. Desirable ii) 3 years research/teaching experience in Parasitology OR (iii) M.D./Ph.D. in related field.

**Job Requirements:** To undertake research work in Parasitology involving culture of parasites, pathogenicity test and drug sensitivity work. Work in the line of developing suitable antigens for serological/skin test will have high preference.

#### **2. Research Officer (Pathology) - One Post**

**Qualifications and Experience :** Essential - i) MBBS, Desirable - ii) 3 years research/teaching experience in Pathology. OR (iii) M.D. in Pathology.

**Job Requirement :** To undertake research work in Pathology and Cytology. To participate in teaching work of the Centre. To carry out any other duty as assigned by the Director.

#### **3. Research Officer (Clinical Research) - One post (Reserved for ST)**

**Qualifications and Experience:** Essential - i) MBBS. Desirable - ii) 3 years research/teaching experience OR iii) M.D./Ph.D. in Medicine/Community Medicine/Dermatology and Veneriology.

**Job Description:** To assist and carry out Clinical Research on diseases related to the research projects taken up in this Centre.

#### **4. Research Officer (Microbiology) - One post (Reserved for SC only)**

**Qualifications and Experience :** Essential - i) MBBS/1st Class M.Sc. in Microbiology from a recognised University. Desirable - (ii) 3 years research/teaching experience in Microbiology OR (iii) M.D./Ph.D. in related field.

**Job Requirement:** To undertake research work in infective diseases involving mostly Bacteriological and Mycological work both in field and in the laboratory.

**Age:** Below 45 years. SC/ST candidates allowed age relaxation in accordance with Govt. of India rules.

Allowances as per Central Govt. rules are admissible on the above pay scale. Benefits of pension admissible. Private practice is not allowed. However, non-practicing allowance as per rules of the Councils is admissible to the medical graduates only. Candidates called for personal discussion will be paid second class rail fare by shortest route on production of documents.

Applications from the employees working in Central/State Govt. Deptts/Public Sector Undertakings and Govt. funded research agencies must be forwarded through proper channel. Application forms can be obtained from the office of the Director, Regional Medical Research Centre, Post Box No. 105, Dibrugarh - 786001 (Assam). Forms duly completed should be sent to the Director, RMRC, Dibrugarh with a crossed IPO for Rs. 8/- payable to the Director, RMRC, Dibrugarh. SC/ST candidates are exempted from this payment.

Incomplete and late application or without postal order will not be entertained.



including Tilak Maharashtra Vidyapeeth, a Deemed University.

#### **Educational Qualifications and Experience**

- (i) Post-graduate degree in the faculty of Arts/Commerce/Science/Law of a recognised University in atleast second class.
- (ii) Atleast ten years' administrative experience in a responsible executive position OR atleast seven years' teaching experience in a college or a University Department and three years' administrative experience.
- (iii) Proficiency in Marathi Language.
- (iv) Experience regarding University Examinations Work is desirable.

#### **Age Limit**

The candidate shall not be, ordinarily, below 35 years and above 50 years of age.

The prescribed form of application in 6 copies can be obtained from the Vidyapeeth Office on payment of Rs. 10/- in person or by sending crossed Indian Postal Order/Demand Draft of Rs. 20/- (payable to the Registrar, Tilak Maharashtra Vidyapeeth, Vidyapeeth Bhavan, Gultekadi, Pune - 411037) by registered post.

**Dr. C.L.Kshirsagar**  
**REGISTRAR**

#### **UNIVERSITY OF KALYANI**

Kalyani, Nadia, West Bengal-741235  
ADVT. NO. 3/91 Dated. 21.6.1991

Applications in prescribed form are invited for the following post in the scale mentioned below with allowances as admissible under the university rules.

**Lecturer in History - One post (Plan Post) - Unreserved.**

- a) Good academic record with master's degree in History with at least 55% marks or its equivalent grade following an Honours degree in the relevant subject.
- b) Specialisation : Any branch of Indian History.
- c) Desirable : At least two year's experience of teaching at the post-graduate or Honours level or of research.

Scale of pay : Rs.2200-75-2800-100-4000/-.

Age : Preferably below 40 years.

Pay will be fixed as per rules of the University.

Seven copies of applications (one prescribed form and six Xerox copies) must be submitted.

The prescribed form may be obtained from the office of the undersigned from 1-7-91 to 22-7-91 on full working days (No form will be issued on Saturday) personally or by sending self-addressed stamped (Rs.1.80) envelope (25c.m. x 12c.m.) on payment of Rs.7.50 by current crossed Indian Postal Order in favour of the "University of Kalyani". Persons already in employment should apply through proper channel. Seven copies of the application (one prescribed form and six Xerox copies) should be submitted in an envelope superscribed with the name of the post applied for alongwith attested

copies of certificates and mark-sheets in respect of all examinations and reprints of research publications/book etc. (one copy each) and the same should reach the office of the undersigned on or before 22-7-91.

No T A is admissible for attending the interview.

Those who applied in response to the Advt.No.2/91 dt 18.4.91 for the relevant post in History need not apply again.

**P. Sircar**  
**REGISTRAR**

## **INDIAN COUNCIL OF MEDICAL RESEARCH**

**(ADVT. NO. 6/91/HQRS. OFFICE)**

Applications are invited upto 19-7-91 for a post of Senior Research Officer (Medical) in the scale of pay of Rs. 3000-100- 3500-125-4500 in the Hqrs. Office of the Council, New Delhi.

#### **Qualification & Experience**

Essential: (1) M.B.B.S. from a recognised University with at least 8 years research experience (5 years only for those with a doctorate degree) in a biomedical topic (Physiology, pharmacology, Pathology, Microbiology, Medicine, Paediatrics etc.) (ii) Experience in writing/editing Scientific articles/Technical reports/Monographs. Periodicals etc. in the field of biomedicine, in a reputed scientific publishing organisation. (iii) High proficiency in English Language.

#### **Desirable**

(1) Flair for writing scientific articles in simple language for laymen (ii) Working knowledge of printing technology and production aspects, including copy editing.

#### **Job Description:**

To assist in (1) Processing of manuscripts submitted to the Indian Journal of Medical Research, (ii) Preparing material for other scientific publications like the Annual Report and other documents. (iii) Preparing/editing of Technical Reports, minutes/Proceedings of selected scientific meeting/ Symposia/Seminars etc. (iv) The ongoing Management information activities of the Council.

#### **Age**

Below 45 years.

**Conditions:** Candidates called for interview will be paid 2nd class return fare on production of documents. Non-practicing allowance is admissible to Medical Graduates only as per rules of the Council. Private practice is not allowed. Service under the Council is pensionable. The period of experience prescribed is relaxable at the discretion of the competent authority.

Application from employees working in Govt. Departments, Public Sector Organisations and Govt. funded research agencies should be forwarded through proper channel.

Application forms and other details can be obtained from the office of the Director General, Indian Council of Medical Research, Ansari Nagar, New Delhi-110 029.

Forms duly completed should be sent to the Director General, Indian Council of Medical Research, Ansari Nagar, New Delhi - 110029 alongwith a crossed Indian Postal Order for Rs. 8/- payable to D.G., I.C.M.R., New Delhi.

SC/ST candidates are exempted from this payment. Incomplete and late applications will not be entertained.



# MINISTRY OF HUMAN RESOURCE DEVELOPMENT

## (DEPARTMENT OF EDUCATION)

### EXTERNAL SCHOLARSHIP DIVISION

#### HUNGARIAN GOVERNMENT SCHOLARSHIPS, 1991-92

Applications on plain paper are invited from the Indian nationals who are residing in India for the award of six scholarships offered by the Government of Hungary for obtaining "CANDIDATE OF SCIENCE" Degree (Ph.D.) in the following subject fields:

(1) Linguistics (2) Literature (3) Mathematics (4) Economics.

**DURATION :** The Scholarships are tenable for 3-4 years (including the time required for learning the Hungarian language) in Hungary.

**QUALIFICATIONS :** Uniformly good academic record with 60% or above marks at Master's degree in the subject concerned or related field.

**NOTE :** Conversion formula should be given where grades have been awarded by University/Institutions.

**ESSENTIAL EXPERIENCE :** At least two consecutive years teaching/research/practical experience as on 1-7-1991 in the subject field selected after the prescribed educational/qualifications. Successful completion of M.Phil/Pre- Ph.D. will be taken as one year's research experience.

**AGE LIMIT :** Below 33 years as on 1.7.1991. The upper age limit is, however, relaxable upto two years for Scheduled Caste/Scheduled Tribe candidates.

**VALUE:** Expenditure on boarding and lodging, internal travel related to the studies etc. will be met by the Hungarian Government.

**PASSAGE COST :** The cost of passage from India to Hungary and back will be borne by the candidate or his/her sponsors/employers. Subject to availability of funds, the passage cost may also be met by the Government of India provided the candidate is eligible under the rules.

**NOTE :** (1) The following documents must be attached with the application. (a) Attested copies of certificate certifying the date of birth (b) Candidates belonging to SC/ST must attach a copy of certificate to this effect. (c) Attested copies of marks sheets of the qualifying examinations (d) Attested copies of all degrees/diplomas/certificates etc. (e) A clear and precise programme of study/research proposed to be undertaken in Hungary (f) A recent passport size photograph of candidate to be affixed on the prescribed application form. (2) Application in the subject field other than those specified above will not be considered. (3) Candidates who have already been abroad for study/specialisation/training either on a scholarship or on their own are eligible to apply if they have been in India or atleast three consecutive years after their return from abroad. (4) Applications of candidates who are at present abroad, will not be considered. (5) Candidates should have sufficiently good knowledge of India and the donor country. (6) Applications which do not contain any of the required documents will be treated incomplete and will not be considered. (7) No correspondence will be entertained from the candidates not selected for interview/scholarship. (8) Canvassing in any form will be a disqualification (9) Employed candidates must send their applications through their employers. The application will be treated as incomplete if the employer does not fully sponsor his/her candidature. (10) Applications received after the prescribed date will not be entertained. Candidates should apply for the above scholarships on plain paper (preferably typed) furnishing the requisite details/particulars to the Deputy Educational Adviser, Ministry of Human Resource Development, Department of Education, External Scholarship Division,

A.1/W.3, Curzon Road Barracks, Kasturba Gandhi Marg, New Delhi - 110001 latest by 31st July, 1991. Format of application is attached.

#### APPLICATION FORM

1. Scheme under which applied subject....Sub-subject.....
2. Name in full as in passport Dr./Shri/Smt./Kum.....  
(in Capital letters)
- ( Surname ) (First name)
- (Second name)
3. Name of father:
4. Name of the Sponsoring authority and /or name of the authority which will employ you on return from abroad.
5. a) Date of Birth:  
b) Place of Birth:
6. a) Are you a citizen of India:  
b) State to which you belong:  
c) Are you a member of Scheduled Caste/Scheduled Tribe. If so, give particulars and attach a certificate from the District Magistrate of your place of residence in support of your claim.
- FOR OFFICIAL USE ONLY A Q E
7. Address of the applicant with pin code number:  
(i) Present/Mailing:  
(ii) Permanent:
8. Particular concerning Examinations passed commencing with Matriculation or equivalent examination (attach attested photocopy of each certificate/diploma/degree for records)

Passport size photograph duly signed in ink to be pasted here (without photograph application will be considered incomplete)

University/ Board insti- tution	Examination passed with year	Class/Div.	Percentage of marks & position if any	Subject taken
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9. a. Details of papers published, if any:  
b. What you have been doing since last examination mentioned under Col. 8.

10. a. Particulars of employment:

Office/Instt. where employed	Date of joining	Date of leaving	Post held	Monthly salary	Nature of duties
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- b. Have you any contact obligation with your employer? If so, furnish details.

11. a) Knowledge of foreign languages, if any (attach proof if possible)

Skill	Very good	Good	Fair	Nil
Comprehension	Spoken			
	Written			
Express	Spoken			
	Written			

12. Nature of proposed programme of study/research: a. Field of



study: Main subject, sub Subject: b. Scholarship/Fellowship desired for Training/Specialisation: Doctoral/research: Post doctoral study/research: c. Name of the Institution (if known) where admission/training is desired (in order of preference); d. Are you willing to accept a place at some other institution if the appropriate scholarship agency recommends it? e. Have you already approached any University or University Professor in the country in which you intend to study? If so, give name and results; f. degree sought, if any; g. Given separately in extra sheets, brief statement in about 100 words each about: a. The work engaged in b. Nature, programme of study/research desired.

13. Future prospects after studies/research. (a) Plan for the future. (b) How are these related to the technical or economic development of the country?
14. (a) Have you applied for any other scholarship in the last two years? If so, state the name(s) of the scholarship(s) and the subject of study/research proposed therein. Are you willing to be considered under any similar scholarship scheme involving study in another country? If so, which? (b) if you had applied under this scheme previously please indicate the result.
15. Give below the names of two persons (they must not be related to you) who are in a position to testify from their personal knowledge as to your fitness for the proposed courses of study. They must be persons under whom you have worked or studied; (i) Name with full address; (ii) Name with full address.
16. Have you ever been abroad? If so, give the following particulars?

Country visited	Date of visit	Duration of visit	Purpose of visit	Scholarship received, if any

17. Father's name (in full): (a) Nationality: (b) Occupation; (c) Address
18. In case you are married, please state; (a) The name of your wife/husband: with full address (b) Nationality: (c) Occupation

(Please give designation with full address if he/she employed):

19. Next of kin to be notified in the case of emergency (give name, address and relationship)

20. I hereby declare that the entire in this form and the additional particulars (if any) furnished in reply to the questions above are true to the best of my knowledge and belief.

Place:

Date:

(Signature of the candidate)

21. I understand that if I fail to avail myself of this scholarship under any circumstances, the Government of India will not consider me for any scholarship being administered by them for a minimum period of at least one year from the date by which this scholarship should have commenced.

Place:

Date:

(Signature of the candidate)

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C.D. Sharma  
REGISTRAR



# University News

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Prof. R.P. Rastogi, the then Vice-Chancellor, Banaras Hindu University, conferring the Degree of D.Sc. (Honoris Causa) on Prof. K.S. Mathur, Emeritus Professor of Medicine, S.N. Medical College, Agra at the convocation of the Institute of Medical Sciences of the University. Dr. A.P. Mitra, former Director-General, CSIR, who delivered the convocation address, is seen at the extreme right.



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# **COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH**

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This is to bring to the attention of all concerned that CSIR has invited applications for awarding Senior Research Fellowships and Research Associateships vide an advertisement appearing in **July 6th, 1991 issue of Employment News**. Eligibility conditions and application proforma are published in the advertisement. The application form may be cut out or copied from advertisement and used. Indians presently abroad can also apply.

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## IN THIS ISSUE

Role of Teachers and the Goals of Education	3
Teaching for Communicative Competence Or Performance? College Students as Human Resource	4
	8

### Convocation

Institute of Medical Sciences, BHU, Varanasi	12
--	----

### Campus News

Gandhian Philosophy and Complete Education	15
Diploma in Higher Education	15
Refresher Course in Hindi	16

### Agriculture

Extension Techniques and Oilseeds Production	16
Advances in Biotechnology	17

### News from UGC

Countrywide Classroom Programme	17
Fake Varsities	18

### News from Abroad

Opening at UNESCO	19
Reforming Chilean Higher Education	19

Current Documentation in Education	21
Theses of the Month	22
Classified Advertisements	C-3

Opinions expressed in the articles are those of the contributors and do not necessarily reflect the policies of the Association.

Editor:

SUTINDER SINGH

# High Tech and High Touch

D.R.Goel \*

Kiran Jaiswal\*\*

The communication technologies available in today's world are radio, TV, audio and video cassettes, computer based management (CAM), CAI, CAD, talking computers, and educational telephone networks etc. A number of products based on digital technology, such as, the compact disc (CD), digital audio tape (DAT), and Digital TV are coming up. Now the question is : can suitably designed, and delivered, relatively high technology provide an excellent exposure — a window to the world?

The high technologies are capable of performing three main instructional functions within the context of any teaching learning process: (i) They create favourable conditions for teaching and learning; (ii) They provide the teacher with an efficient tool with which to manage the learning process; and (iii) They serve as a vehicle to implement the curriculum content.

These high technologies are helping to fill the educational gaps for a long time, but with limitations. There is only one way communication through most of the high tech gadgets. We cannot share our feelings with gadgets. High technology has no human touch. It is mechanical. Why plant such gadgets in education?

High tech is very expensive. In some of the institutions there are not even blackboards. Why talk of computers, compact disk read only memory (CD Rom), video-tapes, and video-disks?

Induction of high technology is at the cost of dislocating and neglecting human beings. Human beings have to enter computer rooms taking their shoes off. Why mechanical, lifeless gadgets are looked after more than the human beings?

High technology is very often imported which may at times be strange to the natives. Maintenance of high technology is a challenging task. Why not to induct the native products?

The present article treats of such questions. Very often there is resistance to the innovations, whether they are feasible, socially, culturally, economically, procedurally, academically, legally or not.

Through electronic media there is very often one way communication. Very often the minority audience or viewers are neglected. No doubt communication particularly through mass media is only one way but communication with large audience and with audience scattered in different areas is possible. It can give a sense of association to the members of a widely scattered institution. With supported institutional materials it can be very useful. Attempts are being made through talk-back, interactive video and television, and networking to realise two way communication. A large number of viewers can view the remotest happening through Direct Reception through C-band antenna through a satellite cable TV system.

\*School of Education, Centre of Excellence, Devi Ahilya Vishwavidyalaya, Bhanwar Kuwan, Indore-452001 (India)



It is not that we cannot share our feelings with the gadgets. The various gadgets extend the human beings. Radio is an extension of our voice, TV, video tape and video disks are the extension of our views and computer is the extension of our brains. Electromagnetic waves are the extension of our speed. Their speed is  $3 \times 10^{10}$  cm. per second, which is seven times the circumference of the globe per second. That is, a message can pass through the circumference of the earth 7 times per second through the electromagnetic waves. Whatsoever, be the medium of view, the viewer starts identifying himself with the view or contrasting himself against the view. Even if the substance depicted through the view is only cognitive, why to overexpect through the different electronic media. Let the potencies of different media be fully utilised. Why expect different media to supplant human beings rather than supplement them?

Another issue is that what should be the rate of induction of Educational Technology. It has to be inducted in a phased manner taking off from the present level of development in a particular institution. Where there is no blackboard, it may be procured. If there is a blackboard, the institution may put in efforts to equip itself with a radio receiver. Then TV receiver, video cassette player, VCR etc. and then computers and compact disks may be planted. Where large population is involved the mass technology can be more appropriate. The choice of high-tech media is based on the relative cost effectiveness of the media. Larger the number of viewers lesser is the per unit cost of the programme. So, the cost effectiveness of different media has to be very carefully calculated.

The rate of induction of high technology, whether it is digital television, or computers should be such that it facilitates human life rather than idling human power. Man has invented electronic gadgets to facilitate human life. Every electronic gadget demands a particular set of conditions. We as human beings have to put in all efforts to see that the suitable conditions are developed and maintained may be at times when it seems taxing for us.

Ideas and equipments have no labels, whether they are imported or native. But, very often after borrowing a foreign technology the problem is that of maintenance-adaptive, and corrective. We have to acculturate the technology according to our needs, conditions, and culture. Application of technology is quite desirable, but equally desirable is the understanding of the nature and structure of technology.

Does high technology improve upon the efficiency and effectiveness? Does it concern human beings?

How long the high technology will be higher for the Indians? We have to have a very open but critical view of technology. What is ideally desirable is high tech-cum-high touch. As mere mechanistic behaviour is not desirable, so mere emotional behaviour is not desirable. If at all they exist in isolation, better they supplement each other. Combination of high tech and high touch in one is always desirable. Can TV provide two way communication? Yes, but we have to go high in terms of interactive television, talk back and other modes of communication. Can TV reproduce the reality? The answer is to pseudonaturalistic level provided the high technology is available and feasible. Does India need computers, CD-ROM, video disks? Do our educational institutions need to be equipped with overhead projectors, zoom projectors, speakers, video-monitors, BBs, Radios, TVs etc.? Should our libraries be automated, and open shelf? Do we need to have Learning Resources Centres, and Laboratories on the networks? Could we predict and control the future through technology when there would be more complex conditions?

Usually when the scientists are engrossed in exploration and technologists in creation and they are so engrossed in their jobs that they are not in a position to attend to others, then they are labelled as egocentric and unsocial. But in fact they, have more concern, more feeling, and more human touch and they sacrifice their lives for the society. No doubt, socially alienated but these people are actually more social. What is high tech and what is high touch have to be properly differentiated.

When technology takes care of us we should also take care of it. As we need to clean our teeth, wash our bodies, oil our hair to keep fit and sustain healthy state to get proper services, so we have to take care of technological gadgets and systems also.

It is necessary to understand the nature of technology in terms of its attributes very analytically.

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## To Our Readers

Knowledgeable and perceptive as they are, our contributors must not necessarily be allowed to have the last word. It is for you, the readers, to join issues with them. Our columns are as much open to you as to our contributors. Your communications should, however, be brief and to the point.

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# Role of Teachers and the Goals of Education

Manju Khanduri\*

India has chosen a democratic way of life. The success of democracy largely depends on the degree of education and enlightenment of the people. The Education Commission 1964-66 has rightly pointed out that "the destiny of the country is being shaped in her classrooms". Evidently the commission had in mind the role of the teacher in realising the goal of national reconstruction. Indeed the responsibility of the teachers in fulfilling this difficult task can hardly be over-emphasized. Teachers have important role to play in shaping the future generation. The role of the teachers in democratic system of education is very crucial. They have to act as friends, philosophers and guides of the students; and help them march forward to establish a new social structure. The role of the teachers in moulding the personality of the students depends on the aims of education. It is the responsibility of the teachers to develop the physical, mental, social, emotional, intellectual and aesthetic aspects, i.e. total personality of the students. Vivekanand said, "Education is the manifestation of divine perfection, already existing in man". He wanted that the aim of education should be man-making. He said, "it is man-making education, all round that we want". The future generation has to be properly and effectively educated so that they can live a purposeful, useful and meaningful life in the rapidly changing technologically advanced and complex world. The students are to be enabled to keep pace with the changing and developing knowledge. The potentialities of the children have to be properly developed so that they become creative and progressive. Their minds have to be constantly bombarded with new ideas and new concepts. Brain-storming should be there in our teaching institutions. Standard of education is to be raised with sophisticated techniques and methods.

For teaching the students effectively the teachers have to be effective; it is recognized that teaching is an expert's job and the teacher has to play a crucial role in this business. The teachers can help the students to make their lives better, fuller, happier and meaningful. The teacher has to create such a situation in the classroom that individuality of the students is fully developed and properly shaped in accordance with the requirements of the country. The students in the classrooms

of our schools are human resources of the country. They have to be cultivated and developed in such a way that their potentialities can be utilized in the making of the country and putting her on the path of progress to realise the dreams and aspirations of our national leaders in real sense of the term. Thus, the role of the teacher is crucial. He has not only to develop the mind, body and spirit of the students, but side by side he has also to inculcate the attitude of peace, freedom, justice and safety in their minds. The teacher should be an integrated individual, skilled in the art and science of human relations and conscious of the wide variety of behaviour patterns in the world to which he may have to adjust. He has to be informed about the contemporary world scene, about its historical background and concerned about improving the conditions of people everywhere. Moreover, he is an intelligent participant in efforts to improve his own community and nation, mindful of their relationships to the world community, clear in his own mind as to the goals of education for international understanding, conversant with methods and resources for such programmes, and able to help create world-minded children and youth.

Teachers have to set new ideals and norms; and inculcate the values of human welfare and mutual goodwill among the students. To quote Welton James, "Education is an attempt on the part of the adult members of the human society to shape the development of the coming generation in accordance with its own ideas of life." The goal before us is to set up a social structure which is free from racial conflicts and mutual distrust. The new social structure is to be based on healthy human relationships. Tagore said "Education nourishes our intellect in order to allow our mind its freedom in the world of truth, our imagination for the world which belongs to art, and our sympathy for the world of human relationship."

Thus for the survival of the future generation and to save the mankind a new system of education has to be evolved by infusing new values, attitudes, morals and ideas in the mind of the students. Tagore hoped that the dawn would come from the East where the sun rises so that "the unvanquished man will retrace his path of conquest, despite all barriers, to win back his lost heritage." Education is a powerful means to achieve

\*Lecturer in Psychology, HNB Garhwal University, Srinagar (Garhwal), U.P.

(Contd. on page 7)



# Teaching for Communicative Competence, Or Performance?

R.K. Singh\*

As teachers of English, if we accept our aim should be to teach well, and if we really want to ensure that our students achieve a basic command of the language, then we (i) need to encourage a teaching programme that is responsive to learners' specific needs, (ii) pursue such teaching activities from which they know and feel they are learning something useful, and (iii) adopt a flexible teaching approach that results in success of the learners (Flink-Levy 1989).

The negative feelings of futility of learning or teaching English need to be changed by adopting a more practical and relevant view of communicative language teaching, using, for example, communication-provoking techniques (without any prejudice against the use of mother tongue), teaching for communicative performance, and developing and testing communicative ability/skill rather than memory or knowledge about English.

When we talk about need-based teaching, it is to remind ourselves that it is the learners we are concerned with and what they need rather than what we need from them. The curriculum should be learner-centred rather than subject-centred; we should teach students, not subjects, as the saying goes. The expectation is that students should participate creatively in the learning process; different learning activities should activate their participation in the communication process (Rea 1986) and thus develop in them the ability to use language in the real life situation. Even in a classroom situation, any textbook sentence, be it from dialogues to be drilled, texts to be read, or even from grammatical exercises can, if occasion arises, be made the point of departure of a more or less brief communication exchange.

And when we talk about a flexible teaching approach in the class it is to suggest that a teacher may use any or all didactic techniques at his/her command: 'audio-lingual' structure practice, 'cognitive' rule-explanation, 'humanistic' learner-responsibility and teacher-learner interaction, and 'functional' use in answer to putative social needs. The teacher-centred lesson of 'lectures'

should give way to learner-centred classroom with student activation in pair-work, group work, dramatic dialogues, total physical response etc. and self-access learning like computer, word processor, language laboratory, audio cassettes, video and TV programmes, library, projects (rather than essays) etc.

It would also be an effective approach to use the mother tongue for ensuring exact comprehension and relieving anxiety; we may take recourse to translation, mainly by eliciting the mother-tongue equivalent from students, wherever necessary, as part of the presentation of new materials and in addition to the other ways of imparting meaning, i.e. demonstration, visuals, the use of realia, paraphrasing etc. Though giving direct translation exercises may affect students' fluency for they won't learn to think in English, a positive attitude to the mother tongue through contrasting structures and lexical items in the two languages will help develop their insight and language sense (Spolsky 1989)

Against this background let me now refer to the much talked about 'communicative' teaching, since I advocate 'communication' is the aim of English teaching, and 'communicative' syllabuses that are being followed in a few institutions generally aim at what Dell Hymes called 'communicative competence'. It's now an important term in language teaching. Of course, Noam Chomsky had earlier referred to it making "a fundamental distinction between competence (the speaker-hearer's knowledge of his language) and performance (the actual use of language in concrete situation)" though competence is now seen as "performance", which is proficiency in using knowledge, or accuracy in use.

But Chomsky's focus was on the sentence level grammatical competence of an ideal speaker-listener of a language, and Hymes, as a sociolinguist, was concerned with real speaker-listeners who interpret, express, and negotiate meaning in many different social settings: he brought into focus the view of language as a social phenomenon and reflected on its use as units of discourse. Socializing competence and performance, Dell Hymes also mentioned "appropriateness" that is, "when to speak, when not, and as to what to talk about and

\*Indian School of Mines, Dhanbad - 826 004.



with whom, when, where, in what manner." (Quoted in Gefen 1989 b). This concept of "appropriate use" as "communicative competence" was accepted by Chomsky and called "pragmatic competence" (i.e. rules of use). Thus, Dell Hymes's 'communicative' is Chomsky's 'pragmatic'; and includes knowledge of sociolinguistic rules, or the appropriateness of an utterance, in addition to knowledge of grammar rules. The term has come to be used to refer to the ability to negotiate meaning, to successfully combine a knowledge of linguistic and sociolinguistic rules in communicative interactions, both oral and written (Savignon 1987).

Michael Canale and Merrill Swain in various papers on communicative competence have referred to "appropriacy" in terms of 'sociolinguistic competence'. In fact, they offer a new term "strategic competence" that is, the ability to use communication strategies like approximation (or paraphrase strategy, i.e. using 'pipe' for waterpipe or 'flower' for leaf to come close to the intended meanings), word coinage, circumlocation (i.e. describing objects or ideas using "It looks like...". It's made of..."etc when one temporarily forgets an exact word), borrowing including literal translation and language mix, appeal for assistance i.e. asking for information (appropriately using "Excuse me," "could you...?" "What's the word for ....?" "I didn't know how to say it," etc), mime, etc. Their strategic competence (Canale and Swain 1980) refers to the ability to enhance or repair conversations and means the same as Chomsky's "pragmatic competence", or fluency. The term pragmatic in this sense of 'Fluency', using various communication strategies in language learning, has also been used by Brumfit and others.

Thus we may interpret communicative competence as consisting of (i) Linguistic competence (Accuracy), (ii) Pragmatic competence (Fluency), and (iii) Sociolinguistic competence (Appropriacy) (Gefen 1989b).

The linguistic competence or accuracy in communication is much broader than mere grammatical competence; it includes the linguistic domains of grammar, vocabulary and pronunciation (or phonology) as well as the linguistic skills of speaking, listening, reading, and writing, spelling, discourse (particularly interconnections and interdependence of the sentences and paragraphs), and the ability to contrast with the mother tongue.

The pragmatic competence or fluency in communication relates to ease and speed to expression, i.e. how to keep talking, how not to remain silent because one doesn't know the word (the skill of paraphrasing),

and other strategies of learning, including how to listen to oneself and so be able to self-correct and self-edit at once; that is, the ability to monitor immediately.

The sociolinguistic competence or Appropriacy includes varieties of text types (stories, dialogues, non-fiction passages etc.) and functions of the language, different levels of formality or appropriacy and use of language in authentic situations.

I doubt if we have in our country such a communicative curriculum with understanding of communicative competence in terms of these three Linguistic competence, Pragmatic competence, and Sociolinguistic competence. But its adoption, as in institutions in Israel, should help students become independent learners; it equips them with linguistic forms, means, and strategies that will help them overcome communication difficulties both inside and outside the classroom. From this perspective, communicative competence should be thought of as communicative performance. Just as a communicative syllabus should be essentially performance-based, that is, increasing the learner's proficiency (Gefen 1988).

At this stage, it would not be irrelevant also to refer to the now well known distinction Widdowson made between usage and use (which echoes the distinction between competence and performance (or langue or parole). As we know, 'usage' is concerned with formal language patterns, and 'use' is concerned with communicative functions, with how the language is used. To quote Brendan Carroll: "The use of a language is the objective and the mastery of the formal patterns, or usage, of the language is a means to achieve this objective. The ultimate criterion of language mastery is therefore the learner's effectiveness in communication for the settings he finds himself in" (Carroll 1982).

The learner is expected to communicate by communicating just as the teacher is expected to use techniques, strategies and stimuli to develop performance competence. The teaching methodology used in the class, be it the much decried Grammar-Translation method of the past and giving recognition to the Mother Tongue or the now gradually discarded 'notional-functional' approach, must translate knowledge (of the rule systems involved) into use, or competence into performance. The objective of developing communicative competence and performance, which is a complex of linguistic accuracy, pragmatic fluency and sociolinguistic appropriacy without excluding discourse strategies and spelling, and punctuation, vocabulary and grammar, comprehension or more accurately, interpretation skills of listening and reading as also produc-



tion skills of speaking and writing, cannot be realised unless teachers are willing to practise some sort of eclectic empiricism i.e. use all the didactic techniques they know to make students actually use the language 'in practical interactional situations'.

I should particularly emphasise the productive skills development and add that there is a high positive correlation between learner proficiency in general and 'speaking' in particular. In fact, oral work is an essential building block of communicative methodology: If speech is not intelligible, the act of communication fails; and those who study English are better aware of it, possibly more than we, in the educational establishment. Oral communication is something we have not been paying sufficient attention to, and therefore not satisfying to students. Willard Shaw (1981) surveyed three groups of students of English in Bangkok, Singapore and Hyderabad and discovered that all the three groups rated their speaking skill their worst, and wanted it to be their best. "There is a great difference between what the students want and what they are getting." (Quoted in Von Schon 1987). (As our needs survey at the Indian School of Mines indicates our students have also repeatedly given priority rating to development of speaking skills just as they want us to focus on language needed for everyday life and social interaction (Singh 1990). This was the situation in the past and this is what obtains even today. As a student in the sixties I was one of those who were unable to communicate in English despite teaching of a Shakespeare play and sonnets, Francis Bacon on 'Studies' and 'Friendship', texts from Byron, Shelley, Keats and Wordsworth etc. We were made to study English by rote, and were perhaps as frustrated as students today are.

Therefore, if it is a communicative learning context, then there should be (i) a sharing of responsibility not only between teacher and students but also between students, (ii) a high level of student involvement and input through a wide range of activities, with teacher functioning as a facilitator, stimulator and resource, and (iii) use of the 'reality of the classroom', i.e. communication appropriate to the classroom (Breen 1983). The mainspring of the communicative approach is the opportunities we present to students for learning a language by using that language to do things — to play games, solve problems and exchange information — rather than simply produce samples of language (i.e. performance of a task). In a student-centred class, the teacher sets up the activity, makes the instructions clear, answers questions when asked, and lets the students learn. In other words, the teacher should allow students to reflect on what they want to say and how they

want to say it; he may advise them or 'teach' them only after they have 'performed' or worked for themselves on, say, specific questions of grammar and discourse; as part of the interactive network he encourages them to experience the very process of performance or production-oriented learning and pay attention to the form of the message as well as to its content as part of real communication.

I agree with Raphael Gefen of the Israeli English Inspectorate: "If communication is the aim of teaching, then communication must be the means of learning" (Gefen 1989a). It is the job of teachers to seek ways and means of making the contents of their textbooks or courseware relevant, meaningful and of interest to the students, stimulating, motivating and provoking them to relate to the content matter as such, and not merely as an exercise in language learning — not reading comprehension as an aim in itself, but being able to understand a reading passage because of what it says, and not just how it says it — the message as well as the code (i.e. grammar, vocabulary, spelling, punctuation etc.). If we teach a story and follow a communicative method, we need to take an interest in the story as a story, including inferences drawn from that story, including exploiting the story in order to broaden the intellectual and cultural horizons of the students, to make them feel after the English class that not only they learnt some English but also they learnt something about life, something new; we need to help them relate it to their own experiences (or referential use of language), promote thinking, raise intellectual awareness; we need to stress cognitive aspects like logical analysis and analogy, and more diverse ways of thinking.

As it is, it may not be there in the syllabuses we follow in different institutions, but to make English a part of the students' communicative environment we need to promote 'consciousness raising' or 'intellectual awareness' through meaningful interaction. This is something I tried to do in my *Using English in Science & Technology* (1988) and *Practising English in Science and Technology* (1990). One can always exploit varieties of communicative texts (that cause genuine reactions) from newspapers/magazines in one's composition class; there is a lot of material scattered around that provide opportunities for classwork and interaction (Singh 1989) on all kinds of social, personal, historical, ethical, even political issues, religious tolerance, environment, healthy lifestyles, mental health, nutrition education, AIDS education, etc. which are not artificial at all and which could justifiably be dealt with in a General Language or Literature course. What I am trying to say is, if we believe in communicative teaching, then whenever



possible, using the language should be genuine communication: the teacher should foster the authentic use of English as a means of bridging the gap between communicative competence and communicative performance. It is as an alternative approach to the organisation and management of the teaching-learning process in the classroom that I suggest; I plead for some new practical experiences with changes in traditional styles of teaching and learning, to turn passive students into active participator and demagogue teacher into facilitator.

We can promote communicative performance, for example, in question-and-answer interactions, particularly referential questions ('how' and 'why' questions) and inferential questions (where a question can lead to a discussion of opinions) rather than in 'display questions' (the information the teacher is asking is already known to students, e.g. 'What is the title of the story'). This use of questions, as an authentic use of English, is part of language acquisition, the natural absorption of English. We should encourage this natural acquisition. But, it doesn't mean I suggest we should neglect formal learning and teaching: formal instructions are not less important (and they relate to the grading and selection of teaching material, explanations by the teacher etc.).

In fact, teaching for communicative competence or performance is not associated with any one method or school of methodology: There is no universal teaching method (or ideal teaching material) suited to the many contexts of language teaching. Whatever didactic techniques one knows without excluding the behaviouristic drills and practice and use of mother tongue where appropriate are all valid at different points in the teaching process. I stand for an eclectic attitude and approach as different methods for different students have always worked and there has not been one best method any time. With our freedom to choose and adopt any notion that serves our teaching ends, with a reasonable degree of flexibility and adaptability that allows us to select among a variety of approaches, methods and techniques those elements that are best fitted to the needs of a class at a given time, we can meet the challenges of present-day situation in most of our colleges that have students with mixed-ability, varying motivation level and ways of learning, forgetting and unlearning. I see teaching communicatively essentially consisting of an eclectic methodology (Girard 1986) which incorporates what is valuable in any system or method of teaching and refuses to recognise bad teaching or defective learning.

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## Role of Teachers and the Goals of Education

(Contd. from page 3)

this goal, and teachers have to show the light of hope to the future generation.

In the present day situations where classroom morale, school climate and social environment are becoming complex day by day, the teacher has to be very competent. The changing situation of the classrooms and requirements of the society necessitate that only such people should be assigned the duty of teachers who are competent enough to shoulder this responsibility. The concept of education is changing fast, new ideas and innovations in the field of education are being incorporated to make education useful and meaningful from the point of view of students and the society. Besides, the programmes of New Education Policy 1986 are to be implemented in its true spirit to prepare India for the twenty first century. All this requires that education being imparted in the classrooms should be quite effective and the teacher imparting this education should also be quite competent and effective.



# College Students as Human Resource

L.N. Mittal\*

There has been talk of framing an Action Plan for college students to move them away from the buildings and curricula of the formal education system into the middle of our societal arena as a Mass Action for National Regeneration.<sup>1</sup>

Any programme of development has certain basic elements in terms of resources, projections and views. Similar is the case with the programme of overall development of a society and of a nation. Apart from scientific and other technical considerations, in this context, it is quite necessary to give equal priority to village development and improvement in the efficiency of women and children, particularly of rural background and area. Obviously, women and children are the essential parts of human capital formation, whereas, villages account for rural and agricultural sectors in the development scenario.

As society develops, it becomes imperative that the cumulative experience and the knowledge necessary for political, economic, social and other development should be passed on to new generations, or to the people who need this knowledge. The accepted customs, norms, values, skills, which are required to be preserved need to be passed on to successive generations.

Development is not merely an expansion of income and wealth, but a process of enlarging people's choices. Human development should be viewed as an extension beyond the conventional human resources development which merely focuses in developing human capital. Development must have people at the centre of the scenario and therefore, it has rightly been said that development must be woven around people and not people around development because people should be the centre of attention.

Any indifference to manpower development and manpower utilisation particularly in a country of India's size with massive population would be disastrous. The country today is faced with many challenges including poverty, social disparity and unemployment. Although the planning era was set off in the 1950s, it has failed in the involvement of millions of masses in the process of development. Along side, manpower planning has also

remained weak and poor<sup>2</sup>. A UNDP report outlining the extent of human development placed India among those countries which were classified under low human development. Ashok Verdhhan describes HRD as an endeavour to make the individual develop his propensities in order that individual as a developed or developing resource contributes to organisation effectiveness.<sup>3</sup> A resource is never an end by itself. The individual has to act as an agent of change for the development of his environment to the best of his ability and capability. Dr. M.S. Swaminathan has rightly said that "Human Resource is the most valuable global resource and any short or long term development strategy should be oriented towards the continued well being of the human race."<sup>4</sup>

The Central Govt.'s increasing concern about Human Resource is seen in the creation of a separate Ministry of HRD so that the Human potential can be used in the areas of mass literacy, youth, women and children and art, culture and sports. As the physical resources in any country, more so in a developing country, are limited, any advanced technology also has its own limitations, not because of deficiencies in know-how but by reason of limitations inherent to natural laws. We seem to be more concerned with making better things than to human innovations.<sup>5</sup> Man has tapped resources of a versatile kind and technology should be man's servant and not his master. Arnold Toynbee has observed that HRD is to be given a fair chance to potential creativity as it is a matter of life and death for any society because the outstanding ability of a fairly large percentage of the population is mankind's ultimate capital asset.<sup>6</sup>

The dynamics of human resource development and its linkage with economic growth and social concern is of utmost importance in a country like India with increasing population.

The UNDP report on "Human Development 1990" has established that development was not merely an expansion of income and wealth, but a process of enlarging people's choices — the three essentials being a long and healthy life, acquisition of knowledge and access to resources. Judged by this new Human Development Index, India's rank on the scale was 12 places higher than the corresponding scale based on GNP per capita. If the index was adjusted to provide

\*Principal, S.D. College, Muzaffarnagar.



for human freedoms and basic human rights, India's position would go up substantially.

Erling Dessau, Resident Representative of UNDP in India while discussing Human Development in Indian perspectives, mentions the following thrust areas:

- (i) Efforts at eradication of illiteracy among adults should be integrated with an understanding of the cultural and general knowledge levels of adult groups;
- (ii) There were reservoirs of traditional skills and time tested practices especially in the areas of health and medicare and these should be fully tapped;
- (iii) To penetrate and motivate highly stratified and economically poor sectors of society in the direction of increased literacy and knowledge-based activities, non-governmental organisations have crucial roles to play; and
- (iv) The Human Development Index was a distinct improvement on GNP per capita as measurement of socio-economic conditions. Its refinement would, of course, be a continuous and evolving process.<sup>7</sup>

College students are best media to pass on their knowledge to the rural folk and they can change their attitudes and skills. For the purpose, training of students is quite necessary by which they can create awareness about the rural problems. Students are such strength who can expose the new ideas of laboratories to the land. In other words they can work as a bridge between laboratory and land programmes.

The following objectives should be kept in mind while promoting a programme for village development:

- i) Planned involvement of universities and colleges through students and teachers for the eradication of illiteracy;
- ii) Promoting the process of interaction of colleges with the community so as to enable the colleges to play a leadership role towards a dynamic adult literacy programme in the country;
- iii) Providing special attention towards programmes for women, children, handicapped and people from the rural backward and slum areas;
- iv) Relating the programme directly to the needs, interests, aspirations and life situations of the learners and to the national goals of socio-economic development;
- v) Helping in acquisition of basic literacy skills, effective

post-literacy follow up and programmes of continuing education so as to bring the learners in the ambit of life long learning process; and

- vi) Ensuring support (financial and other) to provide adequate infrastructure for effective implementation and achievement of goals.

To achieve the above objectives, role of universities/colleges and adult education functionaries is very important.

### **Home Science in Extension Service and Community Development**

College students of Home Science can play an active role in extension of knowledge to the rural women. Through organised extension activities knowledge which has so far remained confined within the portals of educational institutions is being carried out into the community. Thus, neglected homes of our villages now find a chain of village workers trained in the requisite direction.

While developing an extension programme, the extension worker has two responsibilities. First, to guide his/her clients in satisfying their felt needs, and, secondly, to contribute in achieving the national goals. In the process of programme planning, which itself is an educational process, the extension worker must help his/her clients in developing an awareness of the national problems and objectives. When they set priorities for their day to day problems, they should be helped to see the importance of selecting these with the dual advantage of realising both their personal goals as well as the national goals. Some of the present day problems of our country may include the following :

- a) Food and water shortage
- b) Poor health and nutrition
- c) Population education
- d) Environmental pollution
- e) Poverty

Home Science extension has a definite role to play in assisting the rural home-makers to contribute their small bit in solving many of these problems, as they perform their routine functions.

Home Science extension work can result in a raised standard of living for the rural families, and a more satisfying and dignified life for them. The raised aspirations of the rural family, as a result of home science extension work, will in turn help create the necessary motivation among its members for the efforts to in-



crease farm production, better living, etc.

#### Activities for other College Students

- i) The reclamation of available virgin and waste lands.
- ii) The provision of water for irrigation through canals, tubewells, surface wells, tanks, lift irrigation from rivers, lakes and pools, etc.
- iii) The provision of quality seeds, improved agricultural techniques, veterinary aid, improved agricultural implements making and credit facilities, breeding centres for animal husbandry, soil research and manures.
- iv) The development of inland fisheries, fruit and vegetable cultivation, horticulture, including planting of forests.
- v) The provision of village industries relating to agriculture.

#### Co-Operative Societies

The formation of new co-operative societies and strengthening of existing societies in order to bring every family within this framework.

#### Employment

- i) The encouragement of employment through planned distribution, trade, auxiliary and welfare services, wherever possible on a co-operative basis.
- ii) The encouragement of cottage, medium and small scale industries for more employment opportunities.

#### Communications

The provision of roads, encouragement of road transport services and development of animal transport.

#### Education

The provision of compulsory and free education at the elementary stage, middle and high schools, and library services.

#### Health Services

The provision of sanitation and public health measures, medical aid for the ailing, pre-natal and anti-natal care and midwifery services.

#### Training

- i) The provision of refresher courses for improv-

ing the standard of existing artisans.

- ii) The training of agriculturists, home makers, extension assistants, supervisors, artisans, managerial personnel, health workers and executive officers for the projects.

#### Housing

The provision of improved techniques and designs for feasible rural housing.

#### Social Welfare

- i) The provision of community entertainment utilising talent and culture, audio-visual aids for instruction and recreation.
- ii) The organisation of local and other sports, mēlas, co-operative and self-help movement.

When the training programme for college students would start for exposure and awareness, the role and qualities detailed above should be developed in them as an extension workers.

#### Development Strategy for Women's Empowerment

In recent past, there has been a study on the Status of Women in the World by Population Crisis Committee (U.S.A.) which formed the Country Rankings in terms of the status of woman. The study also considered India in this context and ranked it as "Extremely Poor" on the basis of several indicators which are as below given :

INDICATORS	RANKING/POINTS/SCORES
1. Health	10.5
2. Marriage & Children	12.0
3. Education	06.0
4. Employment	04.5
5. Social Equality	10.5

The study reveals that Sweden ranked highest, while, Bangladesh ranked the lowest. The committee looks women as poor, powerless and pregnant. It recalls "The world's poorest women are not merely poor". They live on the edge of subsistence. They are economically dependent and vulnerable, politically and legally powerless. As wives and mothers, they are caught in a life cycle that begins with early marriage and too often ends with death in childbirth. They work longer hours and sometimes work harder than men, but their work is typically unpaid and undervalued."

This appears true for India and women of our society



in general.

Over forty four years have passed since India attained independence and yet poverty, unemployment, illiteracy and glaring socio-economic inequalities continue to persist. Despite the seven five year plans, ameliorating the conditions of rural poor has not been achieved. As today, India is deemed to remain a two nation state—one of the elite and the other of the deprived. This dichotomy has not only increased but has also created potentially explosive situations of numerous fronts. While planners and policy makers are seized of these issues, the gap is widening day by day. It is with this concern that awareness and exposure programmes are arranged to bring the two sides of the 'coin' nearer and to make the city boys/ girls realise their plight of their brothers and sisters living in rural areas.

Social Action needs a development planning which primarily aims at transformation of society in keeping with the democratic goals of India. Social structure has a reality of its own and unless intervened directly, no social transformation is possible. The marxist perspective maintains that the problems of poverty and unemployment are embedded in the structural inequalities inherent in the economic and social fabric of our society. The exposure programme is primarily not to sermonise to the students but to make them realise the abject poverty in rural suburbs only a few kilometres away from their residence. The social structure of inequality has a reality of its own. Trickle-down effect has not made much change in the economic development of rural India.

Social activists in India are generally organised in political ideologies. Any candid account of the existing realities in rural areas need no political wisdom to analyse the grassroot experience. A recent training programme organised by S. D. College, Muzaffarnagar attempted to link the internal conflicts in villages, caste structure, the local vested interests and local administration dealing with development under IRDP, ICDS, TRYSEM, DWACRA, etc., It was an exposure to us as well of the nature of 'Voluntary' social action vis-a-vis mainstream governmental processes. The academicians and students together with the voluntary social organisations can bring the desired change, for the political process is corrupt, to say the least.

The administrative structure for rural development in India is tradition bound with red tape, elitism, centralisation, legalian, cumbersome and inertia. Overall these officers and officials are most insensitive. The

government development agencies and people are far apart causing big vacuum. The government machinery exploitative in nature deals with 'Pyarveekars' rather than illiterate and ill-informed poor.

College students can be change agents in a professional manner to individuals or groups with which desirable innovations are needed. A society is built into several sub-systems within a unified structure. Social change is a process of alternative sub-systems within the given structure of the social system. The change agent plays an important role in any planned social change. Perhaps the single most necessary trait that the change agent must possess is technical competence in the specific task.<sup>8</sup>

A large percentage of population of this country is deprived from the mainstream of development. There are two poles in India — one, the urban, with fast track economic development and the other, predominantly rural and urban slums with slow track development.<sup>9</sup> However, students while acting as change agents should work consistent with existing value system. Complexity of new ideas and issues relating to culturally delicate areas be tackled with care and motivation through communication which should be multipolar.

Thus college students can play a significant role in social transformation of society. The main thrust areas could be literacy, health, nutrition, income generation, environment and ecology, alternative sources of energy, and above all, awareness generation programmes.

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# Interdisciplinarity and Medical Education

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Dr. A.P. Mitra, the then Director General, Council of Scientific and Industrial Research, delivered the Convocation Address at the thirteenth convocation of the Institute of Medical Sciences as a part of the seventy third convocation of the Banaras Hindu University. Making a strong plea for Interdisciplinarity in Medical Education, he observed "Science is breaking boundaries of all kinds. The physical and biological sciences are no longer two distinct and separate worlds. Each is enriching the other in a myriad ways. The discovery of the double helix was to a large measure the contribution of a crystallographer. Biochemists are playing critical role in modern biology. New chemical processes for developing drugs are being introduced by chemical technologists. Drug designs are increasingly going in the domain of computers. Tomographic images of different parts of human bodies are coming from the use of inversion programmes with different parts of electromagnetic spectra — a complex combination of physics, electrical engineering and computer science." Excerpts

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To the society there is no profession as noble as the medical profession. For a country like ours with its pervading poverty, ill health, ignorance and blind faith on doctors, social obligations of a doctor are as important as professionalism and the preventive approach is also as critical as cure.

designs are increasingly going in the domain of computers. Tomographic images of different parts of human bodies are coming from the use of inversion programmes with different parts of electromagnetic spectra - a complex combination of physics, electrical engineering and computer science. Thus, medical

## CONVOCATION

Science is breaking boundaries of all kinds. The physical and biological sciences are no longer two distinct and separate worlds. Each is enriching the other in a myriad ways. The discovery of the double helix was to a large measure the contribution of a crystallographer. Biochemists are playing critical role in modern biology. New chemical processes for developing drugs are being introduced by chemical technologists. Drug

science has become totally interdisciplinary in character.

Has medical education followed this fast pace of inter-disciplinarity? From all I know, it has not. The thrust in medical education is still towards turning out a general practitioner — a knowledge of the human body and its functioning, physiology, anatomy, pharmacology, some elements of biochemistry — a little or no foundation of math-

ematics, physics or computer science or of instruments which serve as major tools of operation of a practitioner or a medical scientist. And newer instruments are all the time coming up — imaging through NMR, linear accelerators, scanning electron microscopes, new types of biomaterials such as bioceramics, optical fibres for endoscopy, and so many others.

Thus medical science, like many other areas of applied science, is really a mixture, in different forms, of many basic science disciplines — the relative importance differing with the problem considered. It is not a stand-alone field.

If one looks back at some of the path-breaking medical discoveries in the past — those that won Noble prizes — one realizes the importance of such interacting inputs.

I suppose all students are familiar with the story of the double-helical structure of DNA. The work won the Noble prize in 1962 for Crick, Watson and Wilkins. Some of you may have read the exciting story of this discovery in the book *"Double Helix"* by Watson. What you may not know is that Wilkins was a physicist with training in X-ray crystallography, Watson was a zoologist by training and Crick, although trained as a physicist, knew no biology and practically no organic chemistry or crystallography in his earlier years but took special care in learning these subjects. This allowed him to develop the general theory of X - ray diffraction by helix along with Cochran and Vand. An unusual combination of people . It is revealing to read, from the Nobel lecture of Wilkins, how he got on to biology. He said "During the war I took part in making the atomic bomb. When the war was ending, I, like many others, cast around for a new field of research. Partly on account of the bomb, I had lost interest



in Physics. I was therefore very interested when I read Schrodinger's book "What is Life" and was struck by the concept of a highly complex molecular structure which controlled living processes. Research on such matters seemed more ambitious than solid-state physics".

Take another case. The 1963 Nobel prize for medicine awarded to Eccles, Hodgkin and Huxley. Here the prize was awarded for elucidating the basic processes underlying the nervous mechanisms of control and the communication between nerve cells. The problem had several similarities with electricity and the methods of study were based on electronics. The impulse in the nerve fibre is an electrical pulse, lasting about 1/1000th of a second. There is series of such pulses and with these pulses the nerve cells communicate with each other and give commands to muscles and glands in the body. The experiment designed was one that a physicist would do. Hodgkin and Huxley introduced two electrodes into the nerve fibres of a squid, one to clamp voltage in variable steps, the other to measure current. Simple use of Ohm's law would then give the resistance or conductance. With this they discovered the ionic mechanisms underlying the communication and the fundamental events of excitation and inhibition. What were the backgrounds of these Nobel-prize winning scientists? Hodgkin was a biologist, but was advised by his teacher Cave Pantin to learn as much mathematics and physics as possible and this he went on doing. Huxley went to Cambridge to learn physical sciences and took physics, chemistry and mathematics in Part-I in Cambridge, but since the rules required that he take another language, he took physiology. Eccles took a medical degree from Melbourne Univer-

sity but shortly afterwards took a first class honours in Natural Sciences in Oxford.

The 1969 Nobel prize awarded for the discoveries concerning the replication mechanism and the genetic structure of viruses to Debruck, Hershey and Luria was also a result of combination of three drastically different backgrounds. Debruck was a physicist, Luria a physician and Hershey a biochemist. They worked independently but in close contact.

In our own country, the founder and the first Director-in-Chief of the Haffkine Institute in Bombay, whose pioneering work is so well known, was not a medical doctor.

I have given you enough examples to show the peculiar combination of approach and training that make such breakthrough possible.

Another factor that has come up over and over again is that of environment. It is not just the working condition or freedom of work that we, almost like a fashion, point our fingers to. It is the presence of peers around us, not just in our field, but in fields which have apparently no connection with ours. The book "*Double Helix*" tells us how important it was for these scientists to be able to talk to people of all kinds, especially people like Todd. Hodgkin has attributed a part of his motivation to the astonishing array of scientific talent that he would see in the High Table of Trinity: people like J.J. Thomson, Rutherford, Aston, Eddington, Hopkins, Hardy, Adrian.

What do we learn from these things? First, medical science in our country must have major inputs from other disciplines — certainly from physics, chemistry and mathe-

matics. This can come in two ways: scientists from different disciplines joining hands and by ensuring a wider range of learning processes for both physical and biological scientists. Secondly, to ensure availability of peers of all disciplines. Medical research schools must be close to, and have organic linkages with, other university faculties. I have often wondered why in the beginning of this Century, in a burst of all-round excellence, we had at about the same time giants in science (Raman, Ramanujan, J.C. Bose), in religion (Ramakrishna, Vivekananda), in literature (Tagore), sports (Dhyan Chand), social reform (Vidyasagar), politics (Gandhi, Nehru). This is probably the only recent renaissance period in this country. The reason may be that excellence in one area prompted excellence in others — and all areas grow synergistically.

We come back to the nature of medical education and education in basic biological sciences. Why is it that we continue to ignore physics, chemistry and mathematics for our medical courses or in studies of biology, zoology, physiology or botany? Why is it we have not realised the vital need for and awareness of testing, standardization and quality control which can be satisfied only from an exposure to physical measurement systems? We have had similar situations, in engineering colleges earlier, but with the introduction of IITs and institutions like IISc, the curricula now take into account some degrees of proficiency in physical sciences. Can we not have similar changes for medical degrees? The usual comment that already the syllabus is too tight, and additional subjects would introduce an unbearable burden, cannot be the main deterrent. The University is the only place where fundamental concepts are taught; details can be



learnt later through experience or special exposure.

What about refresher courses? I am told that such courses on specific themes — especially in areas where progress is rapid — are few. Also should these courses not be organized by non-medical institutions, especially in specific areas like instrumentation, computers, measurement techniques, networking, imaging etc? In the CSIR Centre on Mathematical Modelling and Computer Simulation in Bangalore, we have organized special training sessions for biologists for mathematical modelling. We would be happy to design special mathematical modelling courses for medical scientists.

Medical research is rather new in this country, but its progress has been very rapid. Opportunities are not meagre. We have ICMR and its laboratories, medical institutions like yours, specialized institutions like the Tata Memorial Hospital for Cancer at Bombay, CME at Vellore, the Chittaranjan National Cancer Research Institute at Calcutta, the School of Tropical Medicine at Calcutta, and a number of private medical institutions that are recognized as Research Centres by the government through DSIR. Some are reasonably well-equipped. In addition we have CSIR Institutions like CDRI, ITRC, CFB, IICB, CCMB — institutions concerned with design and development of drugs; with toxicological aspects of drugs, food and industries; with basic aspects of modern biology. We have offered facilities of these laboratories to scientists in the universities and industries. These are also available to medical scientists. The newly introduced Visiting Research Associateship arrangement provides for financial assistance. UGC and CSIR have recently signed an MOU which will cover

medical scientists also. The Standing UGC-CSIR Coordination Council of which Professor V.G. Bhide from Pune is the coordinator could, if proper inputs are provided, design specific themes for linkages.

There are also other ways by which CSIR is helping medical research : through research schemes considered and approved by the Medical Research Committee of CSIR ( a total of 26 schemes with a grant of half-a-crore of rupees is currently in progress), through award of short-term Pool Officerships to medical postgraduates holding MS or MD or equivalent degrees, through provision of partial travel assistance to medical scientists attending conferences abroad (40 last year). The research programmes supported cover a fairly wide range of fields : biochemistry, physiology, endocrinology, genetics, immunology, microbiology, general medicine, neuro-biology, oncology, pharmacology. A regrettable feature is that of a total of 485 Pool Officers, 247 (really half) are medical specialists. This shows inadequate employment opportunities of such talented people. There is a UNDP scheme called TOKTEN through which scientists of Indian origin working abroad are brought in to interact with institutions in India. Of late medical science is attracting an increasingly larger fraction of these scientists. I feel we should make more use of this arrangement in important areas of human health : population control, environmental hygiene, occupational health hazards, safety measures etc.

I will end this address by referring very briefly to a new but urgent problem that needs joint efforts of different classes of scientists. This is the area of IGBP — or, as sometimes called, the Global Change. There are two important aspects

here ; those arising out of increase in UV - B radiation and those arising out of global warming. The effects of increased UV - B exposure means increasing occurrence of non-melanoma skin cancer (1% decrease in ozone causing 3% rise in non-melanoma incidence); damage to cornea, lens and retina of the eye (cataracts estimated to increase by 0.6% per 1% ozone depletion); suppression of the immune system. The fact that India is already embedded in a depleted ozone layer is one that we should take note of. What effects have this exposure to large UV-radiance produced on Indian health? The dosage factor is almost twice as high at Trivandrum than over Delhi. What have been the consequences? The skin cancer effect, from a study we made some-time back, seems to be low for Indians and indeed it is low for Asians in general (occurrence in Japan is only 10% of that in the USA for age-adjusted melanoma mortality). However, incidence of cataracts appears to increase substantially.

Effect of global warming (increased temperature and associated changes in precipitation) are not known. This could add to the UV-B effect of immunosuppression. There is a possibility of increase in infectious diseases. And vaccination programmes designed to deal with such diseases could be made less effective when vaccines are given to high UV-exposed individuals. The entire gamut of man-bacteria-insect equilibrium can go through major changes with unsuspected consequences.

Medical scientists, especially the new graduates, should be aware of the possibilities of such fundamental changes. For the global change effects are slow, even if irreversible, and the studies will go on for decades.



# Gandhian Philosophy and Complete Education

"Dual-education system has also affected the society adversely. So both the rich and the poor must be provided with equal opportunities and facilities for education. This will induce new faith and better environment in the world of education", said Shri B.Satyanarayan Reddi, Governor, Uttar Pradesh, while delivering the Convocation Address at the Kanpur Vidya Mandir Girls Degree College, Kanpur recently.

He said, "true and real education helps us lead a life of rituals, our holy books also justify the fact that true education enriches and enlightens our life, driving away ignorance, pain, anguish and agony, sorrow and suffering, folly and frivolity. Thus we can say that education plays an important role in our social, political and cultural development".

field. This overpowering frustration, dejection and unrest among the youngsters today is due to the impact of western culture. In fact, this western culture has not only affected our way of living and thinking but it has even shaken our faith in Indian tradition and culture. The undue impact of the western culture has inflicted the teacher-taught relationship also. The virtues of respect and reverence, hospitality, faith benevolence and sense of duty have been thrown to the winds. Hence, we are facing disastrous consequences in the form of growing tide of indiscipline, unrest and violence in educational institutions."

He stressed the need for job-oriented education and felt that bookish knowledge or merely enabling the student obtain good marks

girls obtaining degrees today must struggle hard to protect the glorious past of the country and should try to assimilate the present current of thought with the past so as to start a new life. They must bring reawakening in the darkness of ignorance through their light of knowledge. An extinguished lamp can be lighted only with a burning lamp", Shri Reddi concluded.

## Diploma in Higher Education

The Indira Gandhi National Open University proposes to introduce a Diploma Programme in Higher Education (DHE) from the current academic session. This programme has been visualised and developed in response to the recommendations of the National Policy of Education-1986 with a view to provide necessary knowledge, understanding and skills pertaining to higher education to University and College teachers. The programme is to cater to the needs of those teaching or aspiring to teach in universities and colleges and other institutions of higher learning. Working teachers in the institutions of higher education and those having a postgraduate or professional degree in any subject as per the recruitment requirements prescribed by the UGC are eligible for admission to this programme. The programme consists of five courses covering various areas of higher education.

The University has initiated negotiations with the UGC for recognition of the DHE programme for the purpose of Career Advancement of Teachers in Universities and Colleges. This programme is on the lines of the orientation programme of the academic staff colleges but at an advanced level.

## CAMPUS NEWS

He said that the process of education continued from the cradle to the grave. It is a life-long process, because each one of us, whether a student, a teacher or a guardian, not only receives education continuously but imparts it also to others indirectly.

Shri Reddi observed "Education breeds real happiness in life, removing the veil of ignorance from our mind, but today my heart aches with grief and agony, when I notice my educated youngsters, becoming the victim of depression and disappointment, frustration and despair. They are more prone to indulge in violent activities than in creative

in the examination was not the exact end of education. Theoretical knowledge could not be called complete education. A truly educated person was one who followed Gandhian philosophy of simple living and high thinking, and who kept himself away from the attractions of the material world. Thus true education aimed at two fold development i.e. the development of the individual as well as of the society. Therefore a student must actively participate in social welfare programmes like health and hygiene, population control and so on.

"This is my heart-felt desire that



Application forms and prospectus may be obtained either from the Headquarters of IGNOU, in New Delhi or the Regional and Study Centres throughout the country.

### Refresher Course in Hindi

The Academic Staff College of Himachal Pradesh University conducted a three-week Refresher Course in Hindi for the improvement of professional competence of college and university lecturers. The main objective of the programme was to equip the participants with the latest developments in the Hindi literature and research. A number of topics pertaining to main objectives and also popularisation of Hindi, the place of Hindi in other disciplines, teaching of literature, poetry and grammar were taken up.

During the programme each participant was inspired to engage in intensive discussion, presentation of seminar and also sharing his research findings. Participants were also engaged in the activity of writing, editing and discussing the daily proceedings turn by turn.

Prof. K.C. Malhotra, Vice-Chancellor, who presided over the opening and closing sessions, was of the view that mother tongue was the best medium for learning complicated knowledge and to communicate effectively. Since Hindi was spoken in most of the parts of the country and a lot of rich literature had been written in this language, there should not be any hesitation to accept it as a medium of instruction and administration, he said. Prof. Malhotra also called on the teachers that it was primarily their responsibility to inspire students for learning the language and also make it simple for better understanding.

### IGNOU to Restructure Courses

The academic programmes of the Indira Gandhi National Open University are being restructured in phases from 1992, according to Prof. V.C. Kulandaiswamy, Vice-Chancellor of the University. Beginning with 1992, the University shall introduce coursewise registration rather than programmewise admission. Initially, coursewise registration will be introduced in the programmes in Management and Education offered by the University.

One of the major objectives of the University is to provide an innovative system of education in regard to methods and pace of learning and the combinations of courses. At present, students are admitted to one-year diploma programmes or three-year degree programmes. A student taking a diploma programme can complete it in four years and a degree programme in eight years. However, the facility of distributing the curriculum load according to the convenience of students is, presently, not available.

The proposed switchover to coursewise registration will permit students to register for fewer courses that comprise a diploma or degree in one year and complete a whole programme on the basis of

the students' own assessment of their pace of learning. For example, 'Diploma in Management' has five courses. At present, student has to take all the five courses at the time of admission. Under the restructured system, a student can register for a lesser number of courses in an year and complete the programme in two or three years according to his convenience.

### Orientation Course in Yoga

Mahatma Gandhi University, Kottayam conducted a one month short term orientation course in Yoga and Volleyball. 36 teachers from affiliated colleges in the state attended the course. Besides theory and practicals in the concerned games, common classes on allied subjects were held.

Dr. P.M. Joseph, the Founder Principal of Lakshmi Bai National College of Physical Education, Gwalior, who was the chief guest at the valedictory function emphasised the need for organising such orientation courses for the teachers in Physical Education as the subject was fast changing and growing. The dynamic nature of Physical Education and allied subjects needed orientation for its teachers atleast once in every five year, he said.

## News from Agril. Universities

### Extension Techniques and Oilseeds Production

A ten-day Training Programme in Extension Techniques and Communication for Oilseed Extension Personnel of National Dairy Development Board was recently organised by the Tamil Nadu G.D. Naidu Agricultural University. Inaugurated by Dr. S. Jayaraj, Vice-

Chancellor, the Programme was attended by participants from Andhra Pradesh, Karnataka and Tamil Nadu.

Dr. G. Perumal, Director of Extension Education, TNGDNAU welcomed the participants and



stressed the importance of imparting need based training in extension techniques for oilseed extension personnel. Outlining the impact of various training programmes organised by Directorate of Extension Education from time to time, Dr. Perumal impressed upon the participants that adequate knowledge and skill on latest extension techniques and methodology would help in quick transfer of technology.

Inaugurating the training programme, Dr. Jayaraj stressed the need for imparting training in Extension Techniques and Communication and said "Without identifying a proper extension technique/approach.....you will not be able to reach the farmers in full measure....The skill behind each extension technique is to be learnt and practised as it facilitates easy and quicker transfer of farm technology to the right clientele"

He called upon the participant trainees to share the ideas and successful field experiences of oilseed extension in Andhra Pradesh, Karnataka and Tamil Nadu and suggest ways for making the extension efforts more fruitful in the years ahead.

Outlining the remarkable increase in production and productivity of oilseeds in our country, the Vice-Chancellor said that the oilseeds area was increased from 190 lakh ha in 1985-86 to 218.8 lakh ha in 1989-90 and the production has increased from 108.3 lakh ha to 170 lakh ha in the same period. Appreciable progress has been made in productivity of oilseeds (ie) from 570 kg/ha in 1985-86, the productivity increase was one and a half times (ie) 780 kg/ha in 1989-90. The Vice-Chancellor said this was possible mainly due to the high yielding short duration and photo-insensitive varieties evolved in oilseeds.

Dr. Jayaraj stressed the wide

scale adoption of simple, low Cost and improved farm machineries and equipments for various intercultural operations in oilseeds production in order to minimise drudgery and cost of cultivation. Showing concern on the low profile use of farm machineries in our country with the exception of Punjab and Haryana, the Vice-Chancellor called upon the trainees to interact with the Agricultural Officers of the area and identify the socio-economic and feasibility constraints in order to optimise the cost of cultivation of oilseeds.

The Vice-Chancellor also referred to the immense potentialities for increasing oilseeds production from non-cultivated sources like rice bran oil, cotton seed oil, oil from oilcakes and oil from seeds of forest origin.

### Advances in Biotechnology

Keeping in view the enormous potential of Biotechnology in bringing qualitative and quantitative improvements in production of crops and livestock, research in biotechnology has been accelerated at Haryana Agricultural University in an interdisciplinary manner to cover

areas of immunology, photosynthetic efficiency, tissue culture, embryo culture, embryo-transfer etc. With the help of tissue culture salt tolerant plants of rays have been developed, which are stable in yield, have high oil content and are resistant to soil salinity. This was disclosed by the Vice-Chancellor Dr. Amrit Lal Chaudhry recently.

Highlighting the new measures adopted by HAU for diversification of Agriculture the Vice-Chancellor said that the Extension Directorate of the University had intensified the activities pertaining to the commercial farming through all KGKs established in the State. He said that very soon these KGKs would be converted into Krishi Vigyan Kendras (KVKs) which would serve as Mini University or Science Centre for the people of their respective areas. He further said that useful information had also been generated on control of weed and pest management in the crops on location specific basis and on control of increasing soil salinity. Apart from 112 new varieties already developed work on several short statured & high yielding crop varieties was in progress, he added.

## News from UGC

### Countrywide Classroom Programme

Between 15th July to 20th July, 1991 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network

throughout the country.

#### Ist Transmission

1.00 p.m. to 2.00 p.m.

15.7.91

"A quantum leap forwards"

"History of Banking"

"Operational Research Project for Reclamation of Saline & water logged soils"



### 16.7.91

- "Electrochemical Cells"
- "Educational Technology - The Teleteacher - II"
- "Nervous System and Condition of Nerve Impulse"

### 17.7.91

- "CBR Test"
- "Glimpses of Ladakh - I"
- "Some Endocrine Disorders"

### 18.7.91

- "Computers Around us"
- "Ethnographic Film : Different Perspectives"
- "Shakespeare : His life and works - I"

### 19.7.91

- "Simplification of Switching Circuits - II"
- "Mental illness - A Diagnosis"
- "Solar Passive House - II The House for All Season"

### 20.7.91

- "Artists Against Communalism-I"
- "Dialogue with Sthapati"
- "Art With a difference - Paintings on Egg Shells - I"

#### Ind Transmission

4.00 p.m. to 5.00 p.m.

### 15.7.91

- C.P. Violation"
- Tips for Aspiring Entrepreneurs by Prof. Tom Cannon"

### 16.7.91

- "Preparing a Standard Solution"
- "State of Nutrition in India"

### 17.7.91

- "Solar Research - II"
- "Biography - An Art"
- "Principles of Biosystematics-I: The Corner Stone"

### 18.7.91

- "Pen - Pals"
- "A Discussion With A.K. Ramanujan"
- "Towards Better Spoken English-V : Intonation"

### 19.7.91

- "Origin of Universe"
- "Conserving America : The Rivers - II"

### 20.7.91

- "A Talk With Prof. Holme - II"
- "Irshad Panjatan: The man of Profound Silence - II"
- "Music - III : Language of Music"

## **Beware of the Fake Varsities**

On the eve of ensuing new academic session the UGC has advised the Vice-Chancellors and registrars of all universities, secretaries, departments of education and directors of higher education of all the State Governments and Union Territories to caution the students not to take admission into fake and self-styled universities and institutions functioning in different parts of the country in violation of the UGC Act, 1956 and awarding degrees which are not recognised under the said Act.

The following 27 such self-styled universities/vishwavidyalayas/vidyapiths have come to the notice of the Commission which are giving advertisements in newspapers for the award of degrees/diplomas for the various courses such as B.A., B.Com., B.Ed., M.A., M.B.A., LL.B., Ph.D., D. Litt., Lib. Sc., etc. or equivalent thereto under their so-called open university system.

- (1) Maithili University/Vishwavidyalaya, Darbhanga (Bihar),
- (2) Takshila Kendriya Vishwavidyalaya, Uttam Nagar (New Delhi),
- (3) Mahila Gram Vidyapith/Vishwavidyalaya (Women's University), Prayag, Allahabad (U.P.),
- (4) Varanaseya Sanskrit Vishwavidyalaya, Varanasi (U.P.),
- (5) Commercial University Ltd., Darya Ganj (Delhi),
- (6) Testator Research University, Bodinaya-Kanur (Tamil Nadu),
- (7) Sree Narayana Open University, Quilon (Kerala),
- (8) Gandhi Hindi Vidyapith, Prayag, Allahabad (U.P.),
- (9) National University of Electro Complex Homeopathy, Kanpur (Uttar Pradesh),
- (10) Universitetu Newjerusalem, Kuthuparamba, Cannore (Kerala),
- (11) World Social Work University Peruunguzhi (Kerala),
- (12) Netaji Subhash Chandra Bose University, (Open University) Achaltal, Aligarh (U.P.),
- (13) Shrimati Mahadevi Verma Open University, Mughal Sarai (U.P.),
- (14) D.D.B. Sanskrit University, Puthur, Trichi (Tamil Nadu),
- (15) Amritsar University, Amritsar (Punjab),
- (16) Arya University, Srinagar (Jammu & Kashmir),
- (17) Bible University, Ambur (North Arcot),
- (18) Eastern Orthodox University, Ambur (North Arcot),
- (19) Globe University of Science, Kumbakonam,
- (20) St. John's University, Kizhanattam,
- (21) National University, Nagpur (Madhya Pradesh),
- (22) Self-Culture University, Kizhanattam,
- (23) United Nations University, (Delhi),
- (24) Vocational University, Amritsar and Delhi,
- (25) Western University of Kapurthala,
- (26) Uttar Pradesh Vishwavidyapith, Kosi Kalan, Mathura (U.P.), and
- (27) Maharana Pratap Shiksha Niketan Vishwavidyalaya, Pratapgarh (U.P.).



The Commission has also approached the Ministry of Human Resource Development, Government of India for suitable amendments in the U.G.C. Act for making the activities of the fake universities/vishwavidyalayas/vishwavidyapiths/Mahavidyapiths etc. a cognizable offence with provisions for

imprisonment and stringent penalty. The Commission also proposes to make an effective networking with the Monopolies and Restrictive Trade Practices Commission (MRTPC), so that actions initiated by the UGC against fake universities can complement the action taken by the latter to combat the menace.

ing.

2. Varied experience, acquired in the exercise of high-level responsibilities of an intellectual and administrative nature, in the preparation and direction of a cultural programme dealing with historical research, the non-physical heritage and intercultural studies.

3. Perfect command of either English or French and a good knowledge of the other language is essential; knowledge of other languages would be a considerable asset.

Initial appointment will be at D-I grade and the level of officers to be considered for the Post would be as under: (i) More than 17 years of IAS or equivalent services without any upper limit. (ii) Technical and other officers who could be equated with Joint Secretaries to the Govt. of India or above (iii) In other cases officers drawing more than Rs. 5900/- to Rs. 6700/-

Interested persons may obtain further details from Shri V.K. Vaid, Under Secretary, Ministry of Human Resource Development, Department of Education, Shastri Bhawan, New Delhi-110001 and send their applications direct to have latest by 15th July, 1991.

## Reforming Chilean Higher Education

Sweeping changes to higher education in Chile are being contemplated. These include a new funding system, tough action to ensure standards and more student grants.

A high-powered Brunner commission was appointed by President Patricio Aylwin to identify problems and define a national university policy.

## News from Abroad

### Opening at Unesco

Unesco has invited applications for the post of Director in the Division of Cultural Identities and International Relations Culture Sector. The incumbent will be responsible for the planning, direction and implementation of the programme of the Division. This programme consists of the following principal activities:

(a) Preparation for publication of a new edition of the 'History of the Scientific and Cultural Development of Mankind';

(b) Preparation of general and regional histories, and in particular the General History of Africa, the General History of Latin America, the General History of the Caribbean, the History of the Civilizations of Central Asia, the work on the various aspects of Islamic culture, and studies and historical research in all regions in co-operation with specialized institutions;

(c) Inventories, collection and studies of the non-physical heritage, non-verbal traditions, oral traditions, studies and research on languages;

(d) Promotion of the mutual knowledge of cultures, intercultural exchange, including the preparation of the Index translationum and the

enrichment of cultural identities.

In carrying out this function, the incumbent will:

(a) establish and maintain links with the work of the other Divisions in the Sector and in particular with that of the Division of the Physical Heritage and with other sectors and programmes in the UNESCO Secretariat;

(b) provide leadership within the Division and supervise and co-ordinate the work of the programme specialists;

(c) collaborate with UNESCO offices implementing decentralized activities;

(d) maintain close relations with other organizations concerned within the fields indicated above, including governmental, inter-governmental and non-governmental organizations, research institutions and learned bodies.

Qualifications and experience required:

1. Advanced university degree(s), preferably in a field of culture, publications of major importance or equivalent achievement, and other achievements of recognized high intellectual stand-



Declining standards were identified as a major problem, especially in Chile's new private universities. The commission advocates substantial powers to the Council of Higher Education to allocate funds to all universities and to close substandard courses.

The plan has received fairly widespread support from the public and "traditional" private universities, but will inevitably disturb powerful vested interests. The Brunner commission also highlighted problems with student debt.

### **TWAS Awards in Basic Sciences**

One of the main objectives of the Third World Academy of Sciences (TWAS) is to accord recognition to high calibre scientific research undertaken by individual scientists from developing countries and to apply it for the benefit of human welfare and the development of the Third World.

In pursuance of this aim, the Academy awards prizes to individual scientists from Third World countries who, in the opinion of the Council of the Academy, have made outstanding contributions to the advancement of science. Consideration is given to proven achievements judged particularly from a national and international viewpoint.

Five Awards in Basic Sciences are given each year in the fields of Biology, Chemistry, Mathematics, Physics and Basic Medical Sciences.

Each award consists of a prize amounting to US\$ 10,000 as well as a medal on which major contributions of the award winner are mentioned.

Candidates for the awards must be nationals of developing countries

and as a rule, working and living in those countries. Members of the Third World Academy of Sciences are not eligible for such awards.

Nominations for the awards are invited from all members of the Third World Academy of Sciences as well as from science academies, national research councils, universities and scientific institutions in developing countries and from scientific institutions in advanced countries. Nominations should be made on special forms and clearly state the candidate's contributions to the particular field of science for which the awards would be given. The nomination should be accompanied by a 1-2 page biographical sketch of the nominee including his/her scientific accomplishments, a list of 12 of the candidate's most significant publications as well as his/her complete curriculum vitae and list of publications. The deadline for the presentation of the nomination is 1 March of each year.

For further details, contact The Third World Academy of Sciences, C/o International Centre for Theoretical Physics (ICTP), P.O. Box 586, 34136, Trieste, Italy.

### **ACODESS Competition 1991**

The French Association for the Cooperation & Development of Sanitary Bodies, a non-profit association that benefits of the patronage of the French Ministry of Cooperation and Development & the Ministry of Foreign Affairs, has introduced an annual prize to encourage studies, research and inventions that deal with sanitary and clinical cooperation in developing countries.

All candidates are required to have personally, or as part of a team,

undertaken work on sanitary cooperation in the following domains:

- organisation of health care systems, legislative and regulative evolution and sanitary and social policy;
- economic situation of a country, cost of health programmes, financing of sanitation bodies and recovery of costs;
- structural adjustments, independence of management, role and place of hospitals in the sanitation structuralisation; and
- organisation of primary health care & epidemiology, quality & evaluation of health care.

The works presented must be original. They can be one of the following:

- a research or dissertation paper or doctorate thesis (in economics, humanities & social sciences, law and medicine);
- a report by the candidate(s) brought out as part of a project or innovation in clinical cooperation.

The ACODESS 1991 prize, of a sum of 10,000 FF (approximately Rs. 35,000), will be awarded in December of this year.

The candidates should send their application to : Mr. Antoine Ortiz, Director of ACODESS, 7, Rue du Fer a Moulin, 75005 Paris, France.

Their dossier must include the following : (1) 5 copies of their work written in French (printed or typewritten); (2) an application letter with their address, profession, educational qualifications and works; (3) a synopsis of their work in a maximum of 2 pages



# AIU Library & Documentation Services

One of the important functions of the Association of Indian Universities is to act as clearing house of information on higher education in the country. Towards this end the AIU Library is engaged in collection building and developing instruments for the dissemination of research information. Over the years a valuable collection of books and documents on different aspects of higher education has been acquired.

The Library has also developed Bibliography of Doctoral Dissertation as an effective tool in the dissemination of research information. Retrospective bibliographies covering the period 1857-1970 and 1970-75 were the first to appear. Effective 1975, however, the bibliography is issued annually in two volumes. One volume deals with Natural and Applied Sciences while the other records doctoral degrees awarded in Social Sciences and the Humanities. In addition to the normal bibliographical details like the name of the Research Scholar, the title of the thesis, years of registration for and award of the degree, and the name of the University accepting the thesis for award of a doctoral degree, the bibliography also gives name and complete address of the supervising teacher and an availability note that seeks to inform whether a copy of the dissertation is available for consultation and use in the University Library/Department or Registrar's Office.

The columns 'Theses of the Month' and 'Research in Progress' are intended to cut out the time lag between the receipt of information and its inclusion in bibliography. Such Universities as are not sending us regular information in respect of Doctoral Theses accepted and research scholars enrolled are welcome to make use of these columns.

The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday.

## CURRENT DOCUMENTATION IN EDUCATION

A list of select articles culled from periodicals received in AIU Library during June 1991

### EDUCATIONAL PHILOSOPHY

Daniel, J T K. Whither value education. *New Frontiers in Edn* 21(1), 1991, 42-9.

Koikara, Felix. Culture and values. *New Frontiers in Edn* 21(1), 1991, 32-41.

### EDUCATIONAL PSYCHOLOGY

Gitomer, Drew H and Yamamoto Kentaro. Performance modeling that integrates latent trait and class theory. *J of Ednl Measurement* 28(2), 1991, 173-89.

Iran-Nejad, Asghar and others. The multisource nature of learning: An introduction. *Rev of Ednl Research* 60(4), 1990, 509-15.

Vinck, Christopher de. An open book: Intellectual freedom and the SAT. *College Board Review* 159, 1991, 8-11 & 27-8.

### EDUCATIONAL SOCIOLOGY

Agar, David. Non-traditional students: Perceptions of problems which influence academic success. *Higher Education* 19(4), 1990, 435-54.

Aikara, Jacob. Quality and equality in education. *New Frontiers in Edn* 21(1), 1991, 9-15.

Hanford, George H. The hispanic agenda in higher education: A perspective on the early years. *College Board Review* 159, 1991, 4-7 & 26-7.

Mishra, Lakshmidhar. Language, literacy and development. *Indian J Adult Edn* 51(4), 1990, 21-35.

Mohanty, Ajit K. Language of literacy and education for the linguistic minorities in India. *Indian J Adult Edn* 51(4), 1990, 78-88.

### EDUCATIONAL PLANNING

McNamee, Thomas A. A study of where you are: Institutional identity and strategic planning. *College Board Review* 159, 1991, 16-21 & 28.

Mushtaq Ahmed. What is national literacy mission? *Indian J Adult Edn* 51(4), 1990, 187-92.

Yadav, M S. A perspective paper education (1990): A few observations. *New Frontiers in Edn* 21(1), 1991, 16-24.

### WOMEN'S EDUCATION

Bhagyalakshmi, J. Should women forever remain lesser mortals? *Yojana* 35(10), 1991, 16-7 & 22.

### EDUCATIONAL ADMINISTRATION

Amey, Marilyn J. Bridging the gap between expectations and realities. *New Directions for Higher Education* 72, 1990, 79-88.

Johnsrud, Linda K. Mentor relationships: Those that help and those that hinder. *New Directions for Higher Education* 72, 1990, 57-66.

Kauffman, Joseph F. Administration then and now. *New Directions for Higher Education* 72, 1990, 99-107.

Lawrence, Jane Fiori and Marchese, Theodore J. Encountering search committees. *New Directions for Higher Education* 72, 1990, 39-46.



McDade, Sharon A. Planning for career improvement. *New Directions for Higher Education* 72, 1990, 47-55.

McPherson, Michael S and Schapiro, Morton Owen. Selective admission: Does it serve the public interest? *College Board Review* 159, 1991, 12-15 & 28.

#### CURRICULUM

Vedanayagam, E G. Curriculum planning, developing, implementing and evaluating. *New Frontiers in Edn* 21(1), 1991, 1-8.

#### TEACHERS & TEACHING

Bereiter, Carl. Aspects of an educational learning theory. *Rev of Ednl Research* 60(4), 1990, 603-24.

Kagan, Dona M. Ways of evaluating teacher cognition: Inferences concerning the Goldilocks Principle. *Rev of Ednl Research* 60(3), 1990, 419-69.

Kulik, Chen-Lin C and others. Effectiveness of mastery learning programs: A meta-analysis. *Rev of Ednl Research* 60(2), 1990, 265-99.

Leinhardt, Gaea and others. Functions, graphs and graphing: Tasks, learning, and teaching. *Rev of Ednl Research* 60(1), 1990, 1-64.

Moore, Thomas R. Preacher or Teacher: The composition instructor as moral guide. *College Board Review* 159, 1991, 2-3 & 25-6.

Slavin, Robert E. Mastery learning re-reconsidered. *Rev of Ednl Research* 60(2), 1990, 300-2.

#### EDUCATIONAL TECHNOLOGY

George, P P. Selection and presentation of instructional media. *New Frontiers in Edn* 21(1), 1991, 25-31.

#### EDUCATIONAL EVALUATION

Gladieux, Lawrence E. A national examination system? : In the U. S.? *College Board Reveiw* 159, 1991, S1-S8.

Martinez, Michael E. A comparison of multiple-choice and constructed figural response items. *J of Ednl Measurement* 28(2), 1991,

131-45.

#### ECONOMICS OF EDUCATION

Love, J H and McNicoll I H. Economic impact of university funding cuts. *Higher Education* 19(4), 1990, 481-95.

#### SCIENCE EDUCATION

Abdus Salam. Notes on science, technology and science education in the development of the South. *Minerva* 29(1), 1991, 90-108.

Sundaresan, B B. Science, technology and environment. *New Frontiers in Edn* 21(1), 1991, 50-9.

#### VOCATIONAL EDUCATION

Macnamara, Margaret and others. Management education and the challenge of action learning. *Higher education* 19(4), 1990, 419-33.

Tan, Christine M. Some factors influencing student performance in laboratory experimental work in physiology with implications for curriculum deliberations and instructional design. *Higher Education* 19(4), 1990, 473-79.

#### ADULT EDUCATION

Kasworm, Carol E. Adult undergraduates in higher education: A review of past research perspectives. *Rev of Ednl Research* 60(3), 1990, 345-72.

Mohanty, B B. Gramsat: Educating rural masses. *Yojana* 35(9), 1991, 15.

#### DISTANCE EDUCATION

Spanard, Jan-Marie A. Beyond intent: Reentering college to complete the degree. *Rev of Ednl Research* 60(3), 1990, 309-44.

#### COMPARATIVE EDUCATION & COUNTRY STUDIES

Josephine, Yazali. Development of Education in Palestine. *New Frontiers in Edn* 21(1), 1991, 60-64.

Mahony, David. Demise of the university in a nation of universities: Effects of current changes in higher education in Australia. *Higher education* 19(4), 1990, 455-72.

## THESES OF THE MONTH

### A list of Doctoral Theses accepted by Indian Universities

#### BIOLOGICAL SCIENCES

##### Biology

1. Ehtesham, Nasreen Zafar. Isolation, cloning and characterization of repetitive DNA sequences and their use in DNA finger printing. Jamia. Dr Arif Ali, Department of Biosciences, Jamia Millia Islamia, New Delhi and Dr Seyed E Husnain, Senior Scientist, Gene Expression Laboratory, National Institute of Immunology, New Delhi.

##### Environmental Science

1. Jeeva, V. Studies on nutrient cycling processes in different forest types at Nilgiri Hills, Western Ghats. JNU. Prof P S Ramakrishnan.

2. Venkatesh, T V. Genetics of recombination in *Azotobacter vinelandii*. JNU. Prof H K Das.

##### Biochemistry

1. Biswas, Suchandra. Studies on the effect of environmental temperatures on inhibitory neurotransmitter, GABA, in mammalian central nervous system. Calcutta.

2. Dutta, Shantanu Amrendranath. Studies on Microbiological decolourization of lignin bearing waste water. Nagpur. Dr S R Joshi, Environmental Bio-technology Division, National Environmental Engineering Research Institute, Nagpur.

3. Rathore, Amar Singh. A study on oxalate metabolism with special reference to urolithiasis. Rajasthan. Dr S D Bhardwaja, Prof and Head, Department of Biochemistry, S M S Medical College, Jaipur.

4. Sri Padmanabhan. Biochemical and toxicological studies on some plants. Nagpur. Dr N V Shastri, Department of Biochemistry, Nagpur University, Nagpur.



5. Suresh Kumar, T K. **Chemistry and biochemistry of amino acids, peptides and proteins: Biophysics characterisation of cardiotoxin-II (cytotoxin-I) of India cobra venom.** Osmania.

6. William Decruse, S. **Studies on filariasis with special reference to origin and partial characterisation of excretory- secretory antigens.** Kerala. Dr R Kaleysa Raj, Prof and Head, Department of Biochemistry, University of Kerala, Thiruvananthapuram.

7. Zachariah, Bobby. **Physico-chemical studies on cell surface glycoconjugates of neurons from developing human brains.** Chitra Tirunal. Prof Deb Kumar Basu, Division of Neurochemistry, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum.

#### Microbiology

1. Kelmani Chandrakanth, R. **Studies on the preparation of quality chees.** Gulbarga. Dr N S Padshetty, Reader, Department of Microbiology, Gulbarga University, Gulbarga.

2. Keskar, Jayant Bhalchandra. **Microbial degradation of aminopyrenols and aminophenol sulphonic acid present in wastewaters.** Nagpur. Dr M N Parhad, Department of Microbiology, Nagpur University, Nagpur.

3. Punj, Vasu. **Analysis of phospholipase A from Salmonella typhi: Immunological, pathological and biochemical aspects.** PAU.

#### Botany

1. Beri, Ambika. **Effects of heavy metals and growth regulators on growth and development of lentil, Lens culinaris Medic.** PAU.

2. Bhuskute, Madhusudan. **In vitro studies on Dendrocalamus striatus Nees and Bambusa arundinacea Moor with some observations on their embryology and histochemistry.** Nagpur. Dr K H Makde, Department of Botany, Nagpur University, Nagpur.

3. Lalithambika Bai, K. **Cytotaxonomic studies on South Indian Commelinaceae.** Kerala. Prof (Dr) C A Ninan, Head, Department of Botany, University of Kerala, Kariavattom.

4. Mishra, Satish Chandra. **Flora of Orissa state: The Polypetalae (Family 1 to 82 in Bentham and Hooker's System, 1862- 1883).** Sambalpur. Dr G Panigrahi, Ex-Joint Director and Emeritus Scientist, Botanical Survey of India, Calcutta.

5. Nandeshwar, Sukhdeo Bhaskar. **The storage studies in parental genome of hybrid cotton.** Nagpur. Dr (Mrs) A A Shoji, Department of Botany, Institute of Science, Nagpur.

6. Panda, Sauria. **Angiospermic flora of Sambalpur District, Orissa (India).** Calcutta.

7. Paul, Makhan Chandra. **Studies on seed fungi of maize: Biochemical changes in relation to fungal infection.** NEHU. Prof R R Mishra, Department of Botany, North Eastern Hill University, Shillong.

8. Sankariammal, L. **Studies on the cytology and spore morphology of ferns.** Kerala. Dr K V Bhavanandan, Reader, Department of Botany, University of Kerala, Kariavattom.

9. Santosh Reddy, P. **Aeromycological survey of Hyderabad.** Osmania.

10. Salimath, Shanmukhaswami Shivabasayya. **Cytology and genome relations in some species of Eleusine and its allies.** Karnatak. Dr S C Hiremath, Reader, Department of Studies in Botany, Karnatak University, Dharwad.

11. Sood, Neelma. **Karyomorphological observations and biochemical variability in Sorghum (L.) Moench.** PAU.

12. Srinivas, D. **Effects of lead manganese and chelating compounds on some vegetable crops grown in sewage irrigated soil.** Vikram. Dr V P Singh, Prof, Department of Botany, Vikram University, Ujjain.

13. Vishnu Murthy, B. **Ecology of Parthenium hysterophorus L.** Osmania.

#### Agriculture

1. Baldev Singh. **Relative efficiency of different selection criteria for improvement of seed cotton yield in Gossypium hirsutum L.** PAU.

2. Gurinder Singh. **Epidemiology and management of virus induced diseases of bell pepper in Himachal Pradesh.** Y S Parmar. Dr S C Chowfla, Department of Mycology and Plant Pathology, College of Horticulture, Nauni (Solan).

3. Karanjkar, Radhakrishna Rajaram. **Studies on resistance in Sorghum to shootfly Atherigona soccata Rondani, in relation to leaf trichomes and environments.** Marathwada Agrl. Dr R D Chundurwar, Senior Scientist, Microbial Control Research Centre, Marathwada Agricultural University, Parbhani.

4. Patel, Prabhubhai Purushottamdas. **Adoption of selected agricultural technology in tribal sub-plan area of Kinwat Block.** Marathwada Agrl. Dr G K Sangle, Advisor, Maharashtra Council of Agricultural Education and Research, Pune.

5. Sandhikar, Raghvendra Narayanrao. **Prediction systems of groundnut rust epidemic.** Marathwada Agrl. Dr C D Mayee, Prof, Department of Plant Pathology, College of Agriculture, Parbhani.

6. Shelke, Vishwas Vithalrao. **Comparative studies on different proven intercropping systems.** Marathwada Agrl. Dr M V Dhoble, Officer I/C Dryland Agricultural Research Centre, Marathwada Agricultural University, Parbhani.

7. Singh, Hirday Pal. **Genetics of resistance of Phytophthora infestans Debary in tomato.** PAU.

8. Suresh Kumar. **Comparative studies on nutrient ranges in apple leaves by orchard surveys and solution culture.** Y S Parmar. Dr R P Awasthi, Department of Fruit Culture and Orchard Management, College of Horticulture, Solan.

9. Thakkar, Kanaiyalal Amrutji. **Development of a scale to measure agricultural progressiveness of farmers.** Marathwada Agrl. Dr R R Chole, Asstt Prof, Department of Agricultural Extension, College of Agriculture, Parbhani.

#### Zoology

1. Bhatt, Subhra. **An investigation on the fertility of the female rat after postcoital administration of seeds of Nigella sativa and Carica papaya.** Rajasthan. Dr Denis Jacob, Department of Zoology, University of Rajasthan, Jaipur.

2. Chaubey, Usha. **Studies on physicochemical and biological parameters of Gandhisagar Reservoir, Mandsaur District, (MP).** Vikram. Dr K S Rao, Prof, Department of Zoology, Vikram University, Ujjain.

3. Chetri, Lily. **Effect of commercial insecticides on some cultivable ichthyospecies under Assam condition.** Gauhati. Dr S C Dey, Prof and Head, Department of Zoology, Gauhati University, Guwahati.

4. Haldar, Badriprasad. **Taxonomy of Sipuncula of the Indian Coast.** Calcutta.



5. <sup>\*</sup>Jasjit Kaur. Cellular and molecular biology of capacitation and acrosome reaction in mammalian spermatozoa. PAU.

6. Jaya Kumari. Food, feeding habits and breeding biology of certain decapods. Kerala. Dr H Suryanarayanan, Department of Aquatic Biology and Fisheries, University of Kerala, Thiruvananthapuram.

7. Koshta, Vijay Kumar. Studies on pulse beetle, *Callosobruchus chinensis* Linn on stored chickpea. Ravishankar. Dr K K Verma, Principal, Government Arts and Science College, Durg.

8. Nair, Maya K. Arylsulfatase enzyme activity of bacteria, fish and shell fish of Veli Lake, Kerala. Kerala. Dr K Devendaran, Reader, Department of Aquatic Biology and Fisheries, University of Kerala, Thiruvananthapuram.

9. Patnaik, Kalyani Kumari. Studies on the genotoxicity of certain organophosphorus pesticides in the *Drosophila* wing mosaic and sex-linked recessive lethal tests. Berhampur. Dr N K Tripathy, Reader, Department of Zoology, Berhampur University, Berhampur.

10. Ravindra Singh. Investigations on the effect of certain newly synthesized compounds on different species of mosquito. Rajasthan. Prof S C Saxena, Department of Zoology, University of Rajasthan, Jaipur.

11. Salim, M. Studies on the timber boring molluscs of the South-West Coast of India. Kerala. Prof N Balakrishnan Nair, Chairman, State Committee on Science Technology and Environment, Government of Kerala, Trivandrum.

12. Shrivastava, Shiv Kumar. Ecological studies on the white backed planthopper of rice, *Sogatella furcifera* Horvath. Ravishankar. Prof B V Ramnaiah, Deputy Director, Navodaya Vidyalaya Samiti, A-13, Shanti Nagar, Jaipur.

13. Shrivastava, Shri Krishna. Studies on incidence, biology and control of *Stomopterys subsecivella* Zeller (Lepidoptera: Gelechiidae): A pest of soybean in Madhya Pradesh. H S Gour. Late Dr G P Mukherjee.

14. Sunitha Rao, Gullapalli. Studies on hydrography and

meiobenthos of Gosthani estuary, East Coast of India. Andhra.

15. Verma, Vijay Kumar. Enzymological studies in the female reproductive organs of albino rats during zinc deficiency and zinc toxicity: A histological, histochemical, biochemical and ultrastructural study. Rajasthan. Dr R C Mathur, Prof, Department of Zoology, University of Rajasthan, Jaipur.

#### Medical Sciences

1. Amninder Kaur. Role of reactive oxygen species in tissue injury caused in pyelonephritic mice. PGI.

2. Chandrakala Shenoy, K. Experimental diabetes and its effects on the physiology of reproduction in male albino rat. Mangalore. Dr Vasumathi Madhavan, Reader, Department of Biosciences, Mangalore University, Mangalagangothri.

3. Harmesh Kumar. A study of cognitive deficits and psychosocial dysfunctions following craniocerebral trauma. PGI.

4. Lahiri, Indrani. Lipid peroxidation in mammalian uterine tissue. Calcutta.

5. Paradkar, Anant Raghunath. Studies on EKP of erythrocytes and related parameters of patients with mental disorders with special reference to electroshock treatment. Nagpur. Dr A K De, Department of Pharmaceutical Science, Nagpur University, Nagpur.

6. Ramesh, K V. A study on the implications of haemocoagulants and anticoagulants on wound-healing. Mangalore. Dr D R Kulkarni, Principal, D Y Patil Education Societies Medical College, Kasaba Bavada, Kolhapur.

7. Srinivasan, M. Phytopharmacologic and toxicologic studies of *Nigella sativa* Linn. Madras. Dr R Dhananjayan, Reader, Department of Pharmacology and Environmental Toxicology, University of Madras, Madras.

8. Ujoodha, Bishnooduth. Production of cardiac lesions in D8/17 positive and negative monkeys injected with group A beta haemolytic streptococcal membrane and carbohydrate. PGI.

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Applications giving bio-data and attested copies of relevant testimonials should reach the undersigned within three weeks from the date of publication of advertisement.

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**REGISTRAR**

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**Ladnun-341306, Rajasthan**

**ADVT. NO. 1/1991**

Applications are invited for appointment

to the posts of Professors (one each) for the following departments in the UGC Pay Scale plus usual allowances admissible under the Rules.

- 1- Deptt. of Jainology and comparative studies in Philosophy and Religion.
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- 3- Deptt. of Economics of Non violence & Peace Research.

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The candidates will be required to appear at an interview at their own cost. Application along with 'curriculum vitae' must reach the undersigned on or before 15.7.1991.

**R. L. Kothari  
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**Advt. No.1/91 (Abstract)**

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**PUNJABI UNIVERSITY  
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This is in partial modification of the Advertisement No.30/PRO/Rect., June 1991 which appeared in the University News on June 17, 1991 for various teaching posts.

For the posts of Readers (2) and Lecturers (3) in the Department of Business Management, the following additional specialisations have also been prescribed:-

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- (a) Marketing Management (Marketing Research and Industrial Marketing)
- (b) Material Management (Purchasing Management/Warehousing Management/Quantitative Techniques)
- (c) Personnel Management (Organisational Behaviour and Organization Development)

Lecturer

General Management/Computer Applications/Finance.

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**POST GRADUATE INSTITUTE OF MEDICAL EDUCATION & RESEARCH CHANDIGARH****ADMISSION NOTICE NO. 20/91 (ACAD)**

Applications, on prescribed form, are invited for the following courses starting from First September, 1991 :-

Sr. No.	Course	Total Seats	Seats reserved for Sch. Castes/Tribes	Stipend admissible	Duration of the course
1.	B.Sc. Medical Technology (Laboratory)	15	4	Rs. 150/- p.m. for first year and Rs.200/- p.m. for 2nd & 3rd years.	3 years
2.	B.Sc. Medical Technology (X-Ray)	10	2	-do-	-do-
3.	B.Sc. (Audiology & Speech Therapy)	3	-	-do-	-do-
4.	B.Sc. Medical Technology (Radio-therapy)	5	-	No Stipend admissible	-do-
5.	Operation Theatre Assistant's course	10	2	Rs. 150/- p.m.	1 year

- The number of seats mentioned above is subject to variation without prior notice.
- Candidates should not be more than 25 years and less than 17 years on 1st September, 1991 (i.e. candidates born after 1st. September, 1974 and before 1st September, 1966 are not eligible).
- Candidates selected for courses at Sr. No. 1,2,3 & 5 shall execute service bond which, inter alia, provides that after successful completion of the course, they shall if so, required serve the Institute Govt. for a period of three years.
- A limited number of sponsored/deputed candidates may also be accepted for courses at Sr. Nos. 1,2,3 & 5. Admission to course at Sr. No. 4 is restricted to deputed/sponsored candidates only. No upper age limit for the deputed/sponsored candidates.
- Selection will be held at Chandigarh during August, 1991 for which candidates will appear for entrance test and interview at their own expense.
- For course at Sr. Nos. 1 to 3 candidates are required to submit only one application. Choice of courses be mentioned in appropriate space on the application form. Before indicating the choice candidates must ensure that they are eligible for course (s) applied for in accordance with the qualification and other terms and conditions prescribed for the purpose.

**ADMISSION QUALIFICATIONS****FOR THE COURSES AT SR. NOS. 1 & 2 :-**10 + 2 passed in Science Group or its equivalent qualification from a recognised Board/University. **OR**

- Matriculation/Higher Secondary/Pre-University passed from a recognised Board/University with Physics and Chemistry.
- Certificate/Diploma in the concerned subject i.e. Lab techniques, for Course No. 1, and Radiography techniques for course No. 2 of atleast one year duration from a recognised Institute.
- 5 years experience as Lab. Assistant/Technician (for course No. 1) and as Radiographer (for course No.2) in a teaching/research Institute after obtaining the qualifications at (a) and (b) above.

**FOR COURSE NO.3 :-**

10 + 2 passed in Science Group from a recognised Board/University or its equivalent qualification with atleast 50% marks.

**FOR COURSE NO.4 :-**

10 + 2 Passed in Science Group or its equivalent qualification from a recognised Board/University with atleast 50% marks.

**OR**

- Matriculation/Higher Secondary/Pre-University passed from a recognised Board/University with Physics and Chemistry.
- Matriculation/Diploma in Radiography from a recognised Institute of atleast one year duration.
- 5 years experience as a technologist attached to Radiotherapy division/department of a recognised teaching/research Institute after obtaining the qualifications at (a) and (b) above.

**FOR COURSE NO.5 :-**

Matriculation/Higher Secondary passed in the First Division with Physics and Chemistry or its equivalent qualification from a recognised Board for general candidates. Scheduled Castes/Tribes and sponsored/deputed candidates with atleast Second Division in Matriculation/Higher Secondary examination with Physics and Chemistry from a recognised Board will be eligible.

Application form and detailed information are available from the office of the undersigned either personally or on payment of Rs. 5/- at the counter from 10.30 AM to 11.30 AM on all working days and 2.30 PM to 3.30 PM on all working days (except Saturday) or by post on request accompanied with a self-addressed envelope of 23cmsx10cms with postage stamps of 4.50 affixed thereon and a crossed postal order for Rs. 5/- drawn in favour of the Director of the Institute.

**CLOSING DATE FOR THE RECEIPT OF APPLICATIONS IS 27.7.1991.****O.P. Sharda  
REGISTRAR**



# University News

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# ANDHRA PRADESH AGRICULTURAL UNIVERSITY

ADMN. OFFICE : RAJENDRANAGAR : HYDERABAD-30

## ADMISSION NOTIFICATION

Applications are invited for admission to the following Degree Courses for the Academic Year 1991-92.

### GROUP I

- |                         |                         |
|-------------------------|-------------------------|
| i) B.V.Sc & A.H.        | ii) B.Sc. (Agriculture) |
| iii) B.Sc(Horticulture) | iv) B.Sc(Rural)         |

### GROUP II

- i) B.Tech (Agricultural Engineering)
- ii) B.Sc (Dairy Technology) (To be called as B.Tech (Dairying))

Candidates wishing to apply for one or more courses under Group-I need to submit only one application indicating preferences. Similarly those wishing to apply for one or both the Courses under Group II need to submit only one application indicating preferences. Separate applications are prescribed for Courses under each group.

THE CRITERION FOR CONSIDERATION FOR ADMISSION TO THE COURSES MENTIONED ABOVE IS THE RANK OBTAINED AT THE ENGINEERING, AGRICULTURAL AND MEDICAL COMMON ENTRANCE TEST-1991 (EAMCET-91) CONDUCTED BY THE CONVENOR, EAMCET-91, JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD ON 4-6-91 AND A PASS IN THE INTERMEDIATE EXAMINATION OR ITS EQUIVALENT. FURTHER DETAILS CAN BE HAD FROM THE PROSPECTUS.

Applications together with prospectus can be had from the Principals of 1. Agricultural College, Bapatla, Guntur District - 522 101. 2. Agricultural Collage, Naira, Camp Office, Agricultural Research Station, Amadalavalasa - Srikakulam Dist - 532 185. 3. College of Veterinary Science, Tirupati, Chittoor District - 517 502. 4. College of Veterinary Science, Rajendranagar, Hyderabad - 500 030. 5. College of Home Science, Saifabad, Hyderabad 500 004. 6. Agricultural College, Aswaraopet, Khammam Dist - 507 301 and at the University's Agricultural Research Stations at WARANGAL - 506 007, NANDYAL (Kurnool Dist - 518 503) and ANAKAPALLI (Visakhapatnam Dist - 531 001).

Sale of application forms will commence from 12-7-91 on payment of Rupees twenty in person. Those who wish to obtain application forms by post should send a crossed Demand Draft for Rs. 20/- (Rupees Twenty only) towards the cost of application form drawn from any Branch of Andhra Bank or State Bank of Hyderabad in favour of the COMPTROLLER, A.P. AGRICULTURAL UNIVERSITY, RAJENDRANAGAR along with self addressed envelope (12"x5") duly affixed postal stamps worth of Rs. 5/-. No postal order will be accepted. Information as to whether they desire to apply for courses under Group I or under Group II must be clearly given in the requisition letters.

Requisition for supply of Admission forms by post after 25-7-1991 will not be accepted.

All Applications duly filled in should reach the Office of the Registrar, Andhra Pradesh Agricultural University, Administrative Office, Rajendranagar, Hyderabad - 500 030 on or before 31-7-91. Applications received after 31-7-91 will be rejected.

Prof.S.M.Siddiqui  
REGISTRAR

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# UNIVERSITY NEWS

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## IN THIS ISSUE

Administration in Private  
College 4

Teacher Education in Rural  
Development 5  
Education as Investment 10

### Convocation

University of Burdwan,  
Burdwan 14

### Campus News

Distance Education Council 17  
Birla Science Prize 17

### Agriculture

ALGAL Biofertilizers in  
Rice Farming 17  
Summer Institute on  
Integrated Farming 18  
Equilibria and availability  
of Boron in Calcareous Soils 18

### News from UGC

Countrywide Classroom  
Programme 19

### News from Abroad

Awards for Great Teachers 20  
New Universities for Japan 21

Research in Progress 23  
Theses of the Month 26  
Education News Index 29  
Classified Advertisements 31

Opinions expressed in the articles  
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the Association.

Editor:  
SUTINDER SINGH

# A.P. UNIVERSITIES ACT, 1990

## A CRITIQUE

K.V. Rao\*

There is an attempt in Andhra Pradesh to bring the different universities under common code as a step in the direction of streamlining the university administration. A bill was introduced in the A.P. Legislative Assembly on 11th October 1990 seeking to amend and consolidate the laws relating to six universities in the state — Andhra University, Kakatiya University, Sri Krishna Devaraya University, Nagarjuna University, Osmania University and Sri Venkateswara University. After a gap of about 5 months, the bill got the assent of the Governor. Surprisingly, the bill did not evoke adequate response among either the general public or the concerned academics. Perhaps, the public is unaware of the intricacies involved in the university administration and equally frigid are the people within the system to raise their voice for fear of losing the favour they may be getting or the benefits they anticipate to get.

The present act seeks to bring about changes in the university bodies, particularly the executive council, the academic senate and in the constitution of selection committees. The act also dealt with the usual matters such as the administration of university funds, preparation of rules and regulations. Let us discuss in some detail the changes incorporated in the new act and their implications on the university administration. For the purpose of comparisons, the Nagarjuna University Act of 1976 is referred.

### Vice Chancellor

There are not many changes brought about in the office of the Vice Chancellor, excepting his appointment. Prior to the enactment of the present act, he used to be appointed by the Chancellor from out of a panel of names suggested by a committee of three persons, who included a nominee of the Chancellor, a nominee of the government and a nominee of the syndicate. Under the new provisions, the state government is to constitute a search committee consisting of a nominee of the Board of Management, a nominee of the University Grants Commission (UGC) and a nominee of the state government. The change in the constitution of search committee is that the nominee of the Chancellor is replaced by the nominee of UGC.

So far so good. But there were occasions when the state government and Governor were at logger heads in the choice of a particular person for the post of Vice-Chancellor. Considering the cases, where Governor seems to have defied the recommendations of the government, the state government wanted to ensure certainty in the matter of their preference. Accordingly, the government introduced one more clause which makes it obligatory on the Governor to appoint such person as is recommended by the state government. The wording in the act reads as follows:

"The search committee shall submit a panel of three persons to the Government in alphabetical order from among whom the state government shall recommend one person to the Chancellor for appointment as Vice-Chancellor and the Chancellor shall appoint such person as Vice Chancellor."

\*Dept. of Commerce and Business Administration,  
Nagarjuna University, Nagarjuna Nagar-522 510.



This speaks of the interest of the government to have firm hold on the affairs of the universities. This can be interpreted as the real starting point of erosion of university autonomy. Perhaps this might have been the reason for withholding the bill for a long time by the Governor.

Further, the earlier act did not contain provisions for the removal of Vice-Chancellor from his office. But the new act provides for a procedure according to which the Vice-Chancellor can be removed from his office. Wilful omission or refusal to carry out the provisions of the act, or the abuse of powers vested in him cause an enquiry to be conducted by the Lokayuktha or by such person who is or has been a judge of a High Court or the Supreme Court as may be appointed by the Chancellor in which the Vice-Chancellor shall have an opportunity of making his representation against such removal. Even in this case, the Chancellor shall act in accordance with the advice tendered by the government on a consideration of the inquiry report. This again makes the office of the Vice-Chancellor vulnerable and literally Vice-Chancellor will hold the office at the pleasure of the party in power and not the Chancellor, who is his legal superior.

### Registrar

As per the provisions of old act the Registrar shall be a whole time paid officer of the university appointed by the executive council on such terms as may be prescribed by the statutes. The appointment of the Registrar is as much the same in the amended act. But the difference is with regard to the term of appointment. As per the amended act he will be appointed for a term of three years or less and on such terms and conditions as may be prescribed by the statutes. Further he is not supposed to continue in that office for more than six years. After the expiry of the maximum term or even before, he shall be transferred to a suitable position with the same emoluments.

It is heartening that the government has recognised the evils of unfettered authority enjoyed by a single person throughout his employment. Though many equate the post of Registrar with that of a 'head clerk' or even the 'despatcher' the act confers on him wider powers and casts on him multifold obligations. In the discharge of the stated duties, he wields a lot of power and can dictate terms to the other officers and staff in the universities. The position of the latter is much worse, if an IAS Officer takes charge as Registrar in a university. Being in a separate service, he may or may not hold full responsibility for his activities in the campus. There is a danger that the whole thing may end up

as a case of two captains for a single ship. To avoid all this misery, it is better that the post is offered to few qualified people and they are not appointed after a specified period. It is in this context that the idea of having a separate Educational Service comes into the picture.

### Board of Management

The real cabinet in case of a university is this Board of Management, earlier called syndicate and executive council. This is the executive authority of the university having a long list of powers and duties. It seems that the government took lot of pains in identifying a long list of 40 areas on which the powers of the Board extend; besides the preparation and submission of annual accounts and annual report to the academic senate. Important among them include the following :

- (i) to hold, control and administer the property and funds of the university;
- (ii) to appoint teachers of the university and above the rank of lecturers on the recommendations of the selection committee constituted for the purpose;
- (iii) to fix the emoluments of the employees of the university and define their duties and the conditions of their service;
- (iv) to conduct university examinations and to approve and publish the results thereof;
- (v) to manage and control all colleges, hostels, libraries, laboratories, museums and the like, instituted and maintained by the University; and
- (vi) to regulate and determine all matters concerning the administration of the university in accordance with the statutes, or ordinances and the regulations and to exercise such other powers or duties as may be conferred or imposed by the act.

While there is nothing new or peculiar regarding the powers and duties of this executive authority, there are sweeping changes in the constitution of the Board. The Board of Management is now made a larger body with 19 members. The new act provides for the democratisation of the university administration. There will be seven members who would be elected from different electoral colleges. Representation is given to the teachers of the concerned university, affiliated colleges. The nominated members of the board are classified as ex-officios and others. There is a provision for five such officers including Vice-Chancellor, Rector, Secretary to Government in Education, Finance and Commissioner of Collegiate Education. The list of other members includes one Professor, one Principal/Dean, one



Principal of affiliated colleges and four eminent persons from the fields of industry, commerce, legal, engineering, medical, etc., including people from public life.

With these changes, the government intends to democratise the whole functioning of the universities. More often than not, universities also start suffering from the evils of democracy. While the intentions of the government are laudable, universities increasingly become political hotbeds. In fact, the A.P. Government has already started politicising the environment at campuses by nominating more representatives from public life. Sitting and ex-MLAs are nominated to some universities in the state under the new act. It is certain now that universities cannot be free from political interference. A way is created for their direct walk into the board rooms.

### Academic Senate

In order to provide policy guidance on academic and non-academic matters, a general body is constituted in the name of 'Academic Senate'. This institution is, in fact, a hybrid of erstwhile Academic Council and Senate. The senate is now expanded further to include members from different sections of society and from different walks of life. This is a body comprising ex-officio members, life members, members nominated by the government and elected members. This is truly a large contingent. Even the Academic Senate under the previous act is large enough. Even assuming that there should be fair representation to different persons interested in the working of a university, the Senate under the new act is too large, and devoid of any object in mind.

### What the Government should have done?

In order that the government really wanted to promote the cause of education and suitable atmosphere at the campuses, there is no justification for heavy nominations proposed under the act by the government. The provisions of the act seem to cautiously ensure politicians' hand in the management of the higher education institutions. A better technique would be to entrust the job of overseeing the functioning of universities to an independent body like Public Accounts Committee (PAC) and leave rest of the matters to those concerned with universities themselves. Instead of making provision for nominated representatives at every level, the government should have incorporated provisions for elected representatives. In my opinion the senate should have been a smaller body with about 50 or 60 persons representing different interests; these people in turn elected from among them the members for Board of Management. With this arrangement, the

hand of the state is eliminated to a large extent and the backseat driving with nominated members would be curtailed.

Further, the act should have contained provisions regarding the internal management of the universities. As at present there is greater leeway providing for the misuse of authority vested in the offices of Vice-Chancellor, Rector and Registrar and Deans. There is lot of concern voiced regarding the discrimination shown in granting facilities, funds, etc among staff. A better thing under these circumstances would be to force universities to lay down certain principles of fair play and incorporate them in the statutes of the respective universities. This should be considered a serious matter, if the people in the university are to stop gossiping and concentrate on their academic work. Though it is a long time since they have been established, few universities in the state have their own manuals for internal management. As such, it is high time that the preparation and compliance of rules for internal management should be made mandatory through the legislation within a definite period of time.

Finally, the government should have incorporated provisions regarding the proprietary audit in the act itself, so as to ensure effective utilisation of funds in the universities. The existing arrangements are quite inadequate to meet this objective.

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# Administration in Private College

S. D. Tawari\*

The college office has to cater to the needs of students, teachers and has to effectively implement the directives of Govt. officials and administrators.

The contribution of non-academic administrative staff in form of allocation of funds, their timely disbursement, proper accounting of money, acquisition of various goods and equipments, secretarial service, admissions, freeships, concessions, scholarships, audit, examinations, implementation of financial and administrative rules, service records, construction and maintenance of furniture and building etc. is as important as teaching. Teaching and non-teaching staff constitute the two important cog-wheels of the college administration and unless they join hands in sharing the burden no college can get along peacefully and smoothly.

The Principal at the helm of academic and administrative affairs in the non-govt. colleges has to play a number of roles. The responsibility for making decisions is more centralised in a college with the Principal though it seems to be widely diffused with the various teachers, departmental heads and administrative personnels. Work is distributed more on the basis of convenience and trial and error basis than on the basis of established norms, and regulations. The members operating at various levels are not permitted to handle even routine matters independently.

Interference of teachers in the administration also leads to lot of problems which in some cases lead to evil consequences. This interference is done at the instance of the head of the institution and non-teaching staff is forced to follow it. In this case the responsibility is actually no body's as head, teacher, and non-teaching staff all are involved. In order to avoid this, responsibilities be fixed and coordination between all factions should be there. Once the powers are delegated for particular matter it should be left to the concerned person to decide on relevant issues. He may, if he feels necessary, consult others. In case of difference of opinion, they be recorded. Fixing of responsibilities be made as per the directives viz rules and regulations only. Distribution of work according to whims or arbitrary thoughts should have no place. While doing this the progress of institution be given primary importance and integrity towards work be beyond doubt.

*\*Superintendent, Brijlal Biyani Science College, Amravati - 444 602*

Financial rules, office working procedure etc. and code of conduct, service conditions, leave rules, etc. for Principals and senior college lecturers are most ambiguous. Not only that certain things are not mentioned in the rules, but also different universities/colleges are following different rules and procedure. When any explanation is sought on matters not clearly mentioned, the Director of Education and others give ambiguous replies. Sometimes the officials do not interpret the rules in right directions. This has facilitated the Principals to use their own discretion. The staff is being used as a tool to achieve the political and personal ends. Management does not bother about these issues as it involves no financial burden on it. In addition to the above there are many day to day issues in which arbitrary decisions are taken. The academic head should maintain the high dignity of the office and should not try to bypass the established practices and directly deal with junior officials, who otherwise, have no role to play in the given matter. This amounts to encroachment on the powers of non-teaching staff.

It is a well known fact that the art of administration is, if not totally, to a great extent different from academic achievements. Absence of clear rules and regulations, inability to adhere to them in certain matters, lack of support from the concerned authorities and top officials have degenerated the whole administrative set-up in most of the colleges. Officials at the helm of affairs are more interested in enjoying and exploiting the benefits of their position rather than utilising their position for development of college and learning capabilities of students.

One of the important reasons for this situation is that the selection of head of the institution is based only on academic merits and not on administrative knowledge and ability. Training and development of head is a non-issue in the colleges. Many Principals feel that ever increasing administrative duties are impinging on their leadership role. New regulations are coming everyday which require more and more paper work. He is required to attend a number of meetings and also get involved in the civic activities. It is therefore suggested that a new administrative position be created in the college. The person appointed for the said post should be below the rank of the Principal but should have all administrative powers.

*(Contd. on page 13)*



# Teacher Education in Rural Development

## Some Guidelines

U. M. Chhatrapati\*

The development strategies which have been adopted by many countries in the Asian region accord a central role to rural development and transformation in the process of overall economic and social development. Past development strategies, it is coming to be recognized, have tended to bypass the rural population, thus resulting not only in the aggravation of existing inequalities but also in isolating from the mainstream of development the vast majority of the population who could provide a driving force to the developmental process.

In the developing countries of Asia, the mass of the rural population are the rural poor. Rural development is therefore concerned with improving and transforming the economic and social life of the rural poor, and in this the basic human services — food, nutrition, health and education — are critically important.

In the context of rural development with focus on the rural poor, education cannot be considered in the abstract or as an entity which is externally introduced in the mix of interrelated factors that comprise the strategy of rural development. Education systems, particularly as they have evolved in the developing countries, are not only urban-based and urban biased but also are selective in a way which tends to militate against non-urban environments. For education to function as a force for social and economic transformation, its focus, its forms, methods and content would also have to be transformed at the same time.

Many countries in Asia are currently engaged in re-examining their educational endeavours in order to make them responsive and relevant to their larger goals of rural transformation. Valuable insights and experiences are emerging in regard to both the practical and the conceptual problems involved. The very diversity of approaches being tried out holds useful lessons in a situation where no single model is feasible or even desirable.

The Asian Programme of Educational Innovation for Development (APEID) has 'education in rural

development' as one of the focal themes around which cooperative sharing of experiences among the countries of the region is taking place. Such cooperative activities are exploring different aspects and forms of education in relation to rural development such as non-formal modes of education, curriculum in relation to rural development and science education in the rural environment. The present paper deals with the preparation of teachers for education in rural development.

### Rural Development

Most Asian countries have a large concentration of rural population. While urbanization is increasing at an accelerating rate, the rural population remains numerically dominant and is expected to remain so for the next few decades. Considering these realities, many countries in the Asian region, in their strategy to attain national development goals, are concentrating more and more of their efforts on development in rural areas. It is widely accepted now that the concept of rural development and the role of education as a component of rural development were not given serious attention during the early post-war period.

Rural development is now being interpreted as a strategy designed to improve the economic and social life of the rural poor. It involves extending the benefits of development to those who seek a livelihood in rural areas. The major dimensions of rural development are 'economic' and 'social'. The 'economic' dimension of rural development envisages economic uplift: the reduction of poverty so that rural poor get adequate food, clothing and shelter. The social dimension underlines the provision of health and educational services. It also aims at the development of the individual and rural society in a socio-psychological context. Educational and political considerations are two additional elements. In the former, facilities for education are provided for the educational growth of the rural people. In the latter, the political dimension of rural development will enable the rural poor to participate intelligently and freely on the basis of their own aspirations, indigenous culture and creativity designed to shape their community, thereby contributing their share to the overall programme of national development.

\*L.E.College, Morbi-363 642  
(Gujarat)



Since rural development is intended to reduce poverty, programmes have been designed to increase production and to raise productivity. As agriculture is the main occupation in rural areas, it has received priority in such programmes. In view of increasing population and the limited possibility of increase to culturable land, the main effort is to raise the productivity of land through the adoption of a variety of measures such as improved seeds, fertilizers, pesticides and methods of farming. Thus the improvement of agriculture and the provision of relevant services in that area form the first and most important element in rural development.

Thus development is conceived as a multivariate, qualitative and quantitative change which results in growth of the individual, in a collective spirit among people, in creativity, in inventiveness, in the proliferation of a problem-solving approach to life, and ultimately in faith in the collective potential of people. To state the problem in this manner is to specify, in some detail, the goals to which educational policies, programmes and activities are to be directed.

#### **Education in, and for Rural Development**

Two sets of educational activities, differentiated by their main objectives and target groups can be categorised as 'education in rural development' and 'education for rural development.'

Education in rural development refers to activities, related to the role of teachers and other educationists, for effective implementation of the curriculum of the schools in a rural environment. Examples are seen in the case study on a project of training teachers in rural areas, undertaken by Chandrakasem Teacher Training College, Thailand; and in the case study on a competency based in-service teacher educational programme oriented toward the development of Saemaul Undong in rural areas (See 'A case study of the College of Educational, Jeonbug National University, the Republic of Korea).

Education for rural development, on the other hand, covers activities where educationists, community leaders and other groups are prepared to collaborate effectively with other agencies within a broadly-conceived multi-dimensional programme of rural transformation. The nature of educational programme is dictated by the requirements of the total programme, its multi-agency character and multi-pronged approach to the problems. Examples are the case study on the preparation of educators and other leaders to work as leaders or members of the team working for rural

development as in the Saemaul movement, the Republic of Korea and the case study on training teachers for rural reconstruction : a study of Gandhi Vidyapith, Vedchhi, Gujarat State, India.

#### ***Education in Rural Development***

The focus of activities is on the curriculum of a school as a social agency for imparting knowledge, skills and values through in-school and out-of-school activities and experiences. In most countries, curricula are changed to incorporate such elements in the education programme. Two approaches are being followed in relating school curriculum to education in rural development : (a) the elements of rural development are neatly and thoroughly integrated into the school curriculum in such a way that education in rural development becomes the school curriculum; and (b) the usual academic curriculum is retained and activities related to rural development are assigned to extra-curricular affairs. Rural development activities in the countries of the region are being interwind in the curricular, co-curricular and extra-curricular activities.

An examination of official documents of the countries in Asia reveals that the elements of rural development are sought through health and nutrition, education and employable-skill programmes in the school curricula. Included also in their curricula are such topics as study of crops, replenishing forests, control of insect pests, creative work (Bangladesh), work experience — vocationalization and social reconstruction (India), the development of applied skills, fisheries, farming, livestock raising (Indonesia), industrial arts, agricultural science (Malaysia), compulsory pre-vocational and vocational subjects (Nepal and Republic of Korea), participation in community projects, soil and water conservation, health, nutrition, food production afforestation, pollution control (Phillipines), developing skills relevant to productive opportunities in the rural sector, participation in the solution of rural problems, changing attitudes towards manual work, collective participation in social and economic activities at the village level, viewing change as necessary for the regeneration of rural society, and identification of the pressing problems of rural society (Sri Lanka).

Teachers working in rural schools are often ill-equipped for the tasks they are expected to carry out. One of the reasons for this is the uninterrupted migration of better-qualified teachers to urban areas; another is the continued isolation of rural teachers from the cultural interaction characteristics of the urban environment. Considering these realities, attempts are being made by most countries in the region, through training



programmes to keep the village teachers abreast of the latest innovations in education as well as in rural technology and to help build their professional consciousness in support of rural development.

Programmes have been devised in some countries to revitalize their village schools through contact with agriculture, health and cooperative movement workers who are raising the quality and relevancy of the school curriculum through talks and exhibitions. For the teachers such contacts have become an opportunity for in-service growth.

Apart from these contacts, the printed materials which the community workers have been using are found to be of great educational value in in-and out-of-school programmes. Moreover, the community resources which can be identified through the involvement of the school in the community development programmes and in the revised curricula of such schools are being harnessed for the school programmes of work experience, development of employable skills and health/nutrition.

In some countries the use of mass media—radio, television, newspapers—as an instructional means of education has also been exploited for education in rural development. Satellite-instructional television programmes to provide education and training in agricultural education, population education and science education are also being used in some countries. Programmes for preparing teachers for education in rural areas can capitalize on such experiences.

#### *Education for Rural Development*

The focus of the activity is on the development of rural communities. According to traditional concepts, education has little or no role in such programmes. It is now recognized that education cannot be simply restricted to schooling or viewed as a time-bound, placed-bound process, but instead must be equated broadly with learning regardless of where, how and when that takes place. Under this new concept, education has been categorised as informal, formal and non-formal education. Whereas the process of informal education is relatively unorganized and unsystematic, the latter two categories of education i.e. formal and non-formal education, are relatively organized activities. Education for rural development i.e. education linked with programmes of rural development, is provided mainly through informal and non-formal modes, even though linkages are established with the formal education system.

In such programmes, there are four categories of people engaged in education in rural areas. They are (a) people involved in various forms of developmental and extension service activities, such as, agricultural extension workers, health education service workers, cooperative society organizers, family planning workers; (b) those, including farmers and skilled craftsmen, concerned particularly with the education and training of out-of-school youth; (c) workers engaged in all levels of adult education and community development including religious leaders; and (d) personnel working in the formal schools.

All categories of education and all kinds of educators have important contributions to make in rural development programmes and are therefore taken into account in evaluating and promoting education for rural development. Self-management of the programmes and cooperation among different communities in exchanging experiences are two prominent approaches followed in some of the recent plans for rural development. Self-management involves communities participating, along with development agencies and such institutions as those for health, agriculture and industry, in planning and conducting surveys to identify the community needs and the resources, including human resources, available in those communities or in the developmental programmes for the communities. Such collaboration on the part of communities is one way to make them acutely conscious of their problems and of their power over processes for solving them, in addition to inculcating in them the skills required in undertaking such surveys. The development of the programmes likewise helps them in learning new skills and in cultivating an awareness of the need to acquire other types of skills in order to tackle their problems. The implementation and evaluation of such programmes by the communities provides them with ample practice in the use of skills and in further strengthening their competencies and enhancing their self-reliance.

#### *Overlap Between Education in and for Rural Development*

Theoretically, it is possible and useful to distinguish between education in rural development and education for rural development. Practically, it is not possible to observe this distinction in analysing projects or developing curricula for teacher education. Some elements in a project might require certain attitudes and abilities for more effective participation in rural development and education for rural development programmes.

Similarly some learning experiences in teacher education may be demanded by some parts of the



school curriculum. But any training given for participation in rural development programmes would result in improvement of the performance of such teachers in schools also and can therefore be treated as a continuing education strategy for such teachers.

A much greater difficulty arises in maintaining this distinction when we are concerned with activities which involve teachers, students and other groups in the community development projects. Such activities, are covered in the school curriculum by the education system and treated as a part of the rural development programme of the concerned department.

For these reasons, it is not possible to observe the distinction between education in and for rural development rigidly in the analysis of different projects and formulation of guidelines for core curriculum.

### **Implications for Teacher Preparation for Education in and for Rural Development**

Ad hoc measures for enabling teachers on the job to implement the curriculum of the school for rural development and for their own active participation as members of teams for rural development, as sampled in the foregoing sub-sections, indicate that teachers are assuming new roles for which the traditionally designed pre-service and in-service programmes do not prepare them adequately. In the very recent past, however, some countries have evolved programmes to ameliorate that situation, while other countries have plans and innovative programmes undertaken in the APEID Member States. These suggest certain implications and growth points for preparing teachers in education for rural development. These are :

i) There is an urgent need to examine the current programme for preparing teachers. The curricula of teacher training institutions need analysis with respect to the requirements for teachers to be involved in programmes of education for rural development;

ii) The teacher-training curricula need revision on the basis of identified knowledge and skills required by school teachers in rural areas;

iii) The pre-service training of teachers should include courses on rural development, information about agencies undertaking programmes of education for rural development and activities which will assist teachers in developing a clear understanding of the national educational programmes in rural development;

iv) The training methodology of teacher education institutions will need close scrutiny and reorganisation

as the teaching methods of teachers in rural schools will be affected by the new objectives of education for rural development;

v) Teacher educators will need a strong programme of continuing education to equip them to prepare teachers for new challenges in rural development;

vi) The in-service programmes for teachers will need to be planned in the context of knowledge and skills required for rural development; and

vii) Teacher training institutions may have to provide training to teachers to develop and handle modules to be used by teachers and pupils in rural schools.

Through the process of analysis of the different case studies a large number of objectives have been identified. These objectives have been synthesised into 14 cardinal objectives related to teacher education for rural development. These are :

i) to develop an understanding of the aims and goals of education for rural development and to promote a commitment to their realization;

ii) to prepare effective teachers - cum - rural reconstruction workers;

iii) to develop leadership qualities, self-initiative, confidence and drive;

iv) to develop skills in working with local people in rural areas individually and/or as a team;

v) to develop an understanding of rural problems and to relate them to the instructional programme of the school.

vi) to develop an understanding of the close relationship that should exist between rural society and the school;

vii) to develop ability and willingness to do manual as well as intellectual work;

viii) to learn to develop the school as a community centre;

ix) to develop in teachers a spirit and philosophy of the community development movement;

x) to impart training in rural technology to develop employable skills;

xi) to engender in teachers a scientific attitude and skills for experimentation and research;

xii) to help teachers learn techniques of dissemination;



tion of useful research findings in education and rural life;

xiii) to build a professional commitment to rural development; and

xiv) to provide frequent and practical opportunities and experience to teachers and students to contribute to national development.

### Strategies

All institutions/projects studied support the concept of integrating rural development with the teacher/school education system. The consensus is to orient teacher education in such a way that it becomes heavily biased toward rural areas and rural development. Some institutions advocate rural development as an optional field of specialization while others emphasise in-service teacher training as a part of the curriculum of the teacher education programme. Both approaches integrating rural development through the revision and re-orientation of syllabi and developing and organizing teacher training programmes for rural development will be required, for both have different purposes yet each complements the other.

Of the three basic components of teacher education—theory courses, practical/field work, and research—the first two are common to all the educational systems. Research is not. Nevertheless, the integration of teaching, field work/extension activities, and research is noted in some of the teacher-education institutions. Such integration is strategically important to impart wholesome training to teachers and, for that matter, anyone else. Another feature which exists in only a few institutions in India is the introduction of nursery education in doctoral studies including teacher education. This has been done on the assumption that all have something in common and that they can contribute significantly in providing better education to teachers and others if they are functionally linked together. The teacher education programme at Gandhi Vidyapith which is without a time table and without systematic classroom teaching but which maintains better standards in comparison with regular classroom teaching institutions, may be of interest to educators, educational planners, and administrators.

### Methodology

There are common methods of training teachers such as through lecture and discussion, assignments, library work, and use of audio-visual aids. These approaches, concentrated over a period of time on a selected group of villages, have visual impact and are satisfying to both the villagers and the institution. Com-

munity living on the campus by teacher trainees and teacher educators has been derived from the ancient 'Gurukul' type of system where teacher and taught lived together like members of the same family. The case demonstration (Korea), learning through problems/projects and the crash programmes (India) are innovative teaching methods. The case study method of teaching is becoming increasingly important in all types of institutions.

An internal assessment system (India) of evaluating students and trainees, and different methods of evaluation (Nepal) can be profitably utilized by educational institutions.

### Outcomes

Highlights of the outcomes are :

i) Better teacher training and more effective teachers working in, and for, rural development;

ii) More positive attitudes and greater interest on the part of trainees towards rural schools and rural development;

iii) Teachers more clearly understand rural life and its relationship to schools;

iv) Teachers trained in rural development perform better as teachers and change agents;

v) Trainees have better skills in working with local people either individually or in groups;

vi) Communities enriched both socially and economically and educational programmes improved;

vii) Specialisation in rural education as a part of the teacher-education curriculum has been established;

viii) Teacher training in rural areas has had a positive impact on community development; and

ix) Functional relationships between educational institutions and the communities have been strengthened.

### Teacher Education Institutions

As the school curriculum changes and new methods of instruction become more prominent, a natural corollary is that the structure and functioning of programmes of teacher-training institutions must change. The essential point is to determine what skills and competencies will be required of the teacher to enable him to discharge his new role effectively. Proper attitudes will have to be engendered amongst teachers so that they perceive rural development as a critical function of

*(Contd. on page 13)*



# EDUCATION AS INVESTMENT

## Low Priority and Small Returns for Women

Reba Majumdar\*

There has been much discussion round the world during recent times on the theme that education should be considered as an investment and optimal benefits should be derived from it in the form of human resources development, both in quantity and in quality. In fact, this has become the keynote for the development in the third world countries like India.

In a country like ours, one has to assess the needs of the country in terms of human capital and plan for investment in different areas of education, particularly, in the field of higher stages of academic disciplines, so that on an economic analysis of the study of and demand for human resources, the best return can be achieved of the investments made. This is about the quantity of human resources development and unfortunately, education, in the present Indian social context, has fallen short of this expectation in terms of these returns, particularly, in the case of women.

In spite of the glorified status of women in ancient scriptures, the position of today's women, as potential human resource, both quantitatively and quality-wise, has not only been overlooked to a great extent but in the meantime their role has been undermined very steadily and gradually relegating them within the confines of social and domestic obligations that inhibit their blossoming into full-fledged womanhood. The aspirations of women have been truncated, their values coloured by the necessities of male domination and their identity eclipsed.

Realising this degrading condition of women, the United Nations declared 1975-1985 as the International Women's Decade and adopted a World Plan of Action to raise the status of women to one of equality with men to ensure their involvement in the process of development at all levels and fuller participation in the wider social process.

The importance of education, particularly for women, was also felt in our country, in general, together with the need for equality in opportunity for the intellectual development of men and women during the successive Five Year Plans. Efforts were made, starting from the post-Independence era, to enrol more girls in

schools, to encourage girls to stay in schools and to continue their education as long as possible. Women's education has assumed special significance in the context of the country's planned development because women constitute about half of the nation's population, representing a valuable human resource, and play an important role in the development of the community and the national economy.

The Report of the National Committee on Women's Education (1959) made a strong impact on the Third Five Year Plan and the trend continued in the Fourth and Fifth Five Year Plans. The landmark of the Sixth Plan was the inclusion of women's education as one of the major programmes under Women and Development and the Seventh Plan envisaged restructuring of the educational programmes and modifications of the school curricula to eliminate gender bias. The Eighth Five Year Plan is expected to continue the thrust on women's education and development.

The National Policy on Education of 1986, is a milestone in the approach to women's education, which labels itself as the 'Initiatives for Women'. It has attempted, for the first time, to address itself to the basic issues of women's equality.

In spite of all these educational measures that have been adopted for women by the Government, both at the central and state levels, and the encouraging trends and marked progress that have been made in respect of women's education over the years, the educational status of women as potential human resource, is far from satisfactory. An overall estimation reveals that literacy among women is much lower than that among men. A glance at the last few years' statistical figures would substantiate this.

In 1951, the percentage of literacy between male and female, within, approximately, the age group of 15-24, were, 33.9 and 13.2, respectively. In 1961, 23.3% of males were literate as against 11.12% of females. Again, in 1971, within the same age group, male literacy was 8.5% while female literacy was only 6.0%. In 1981, between 15-24 age group, as against 7.5% male literates, female literates were only 5.2%. Dropout is very high, particularly for women, due to various socio-economic,

\*Maharani Kasiswari College, Calcutta.



cultural and religious factors. At the secondary stage, girls' enrolment constitutes only 12% of the age group 14-17, as against 31% of the boys' enrolment of the same age. In fact, during the first two plan periods, the additional enrolment at all stages of education was 21.7 million for boys and girls and out of these only 7.6 million were girls.

The entry of women in the higher education has been made possible after crossing many a hurdle. The very emergence of Women's University is itself a concrete example of how higher education had to be spear-headed against great social and cultural odds. As early as in 1946-1947, for every 100 male students at the university stage, the number of female students were only 12. The position has not altered during the successive plan periods, although there has been a rapid all-round expansion of educational facilities. A glance at some of the enrolment figures amply confirms this. During 1961, in urban areas, the proportion of male and female students at the higher stage of education within the age group of, approximately, 20-24 was, 3.7% and 1.4% respectively. Again, in 1971, within same age group, 2.5% male students received higher education while 1.1% of female students enrolled themselves in higher education. In 1981, however, although the total population of male and female within the age group were more or less equal, yet, as against 4.8% of male students, female students were only 2.8%.

The above discussion obviously indicates that, since Independence, education has not been employed fully and fairly to develop women as potential human resource quantitatively.

Besides this quantitative aspect, the quality of human resources, however, demands a new angle of approach other than routine production.

As far back as in 1948, Radhakrishnan Commission commented on the defects of Indian education system by saying, "Little thought has been given to the education of women. Women must share the same programme as men or go without it. There are ways in which many women's interests or appropriate fields of work diverge from those of men and educational programme should take that fact into account". To offset this unequal promotion of women's education, the National Policy on Education of 1986, has laid down a Programme of Action for its implementation. This Programme of Action spells out the meaning of Women's empowerment by saying, "women become empowered through collective reflection and decision-making". Some of the parameters of empowerment, relevant to the present paper, are, as follows :

- Building a positive self-image and self-confidence;
- Developing ability to think critically;
- Building up group cohesion and fostering decision-making and action and so on.

The Programme of Action has also envisaged several objectives of women's education particularly, at the higher stage. Among these, most relevant ones, for the present paper, are :

- To prepare an enlightened unit of society by treating women as an individual. This new basis would give scope to our women for developing their special gifts, aptitudes and interests, enabling them to live not only a happy and healthy life but also a creative life.
- To find full expression for women's talent, ability and personality and for this purpose enable her to adopt a discerning attitude so that she can escape the bonds of superstition and obscurantism.

The above selected parameters for women's empowerment and some of the objectives of women's higher education clearly point out the fact that one of the major thrusts of education should be to cherish and nurture the potentialities of women without being gender-biased. In this context, it would be quite relevant to mention certain significant psychological and motivational findings of women students at the university level in Calcutta colleges. These findings have been revealed through an investigation conducted by the author of this paper.

The study aimed at measuring academic motivation of about 200 men and women students at the graduate level of education, in the context of several psychological and academic factors like, vocational aspiration, academic performance, self-concept and the measure of origin and pawn classroom climate. The result showed that on the basis of three factors, which are, vocational aspiration, self-concept and in the concept of origin-pawn classroom climate, women students possess higher academic motivation than men students. Several psychological tests and projective type of questionnaires were applied in the above mentioned study. A large number of responses, however, reveal that women students not only aspire highly as regards their vocation than men, but also express a strong desire to be economically independent. Women students have been also found to be full of self-confidence and quite able to take independent decision as regards their future vocation. The findings also reflect that women students have a more positive concept of their own self than men students; are quite aware of their own talent and ability. Moreover, female students are extremely



conscious of the fact that in spite of the existing social and family taboos and restrictions, they would exert themselves and struggle to establish their separate identity. The said research findings also confirm that in case of academic performance both men and women students fair equally.

The above experimental findings, are also corroborated by an earlier empirical study, made by Kirkpatrick (1976) on men and women students at the graduate level of education in Bangladesh. The study showed that most of the women students possessed a stronger sense of identity than men students. Practically, all of them expressed an urge to avail of higher education in order to serve their country and be a good and conscientious citizen of Bangladesh.

The sum total of the above experimental findings, no doubt, fulfil the parameters of women empowerment and objectives of women's higher education, laid down by the Programme of Action of 1986; yet, even after forty years of Independence, Indian education system proves to be quite inadequate to realise and develop the immense potentialities of our young womenfolk which no doubt failed to fulfil the expected returns.

In an economic analysis, the consideration of education as an investment, would suitably be justified if and when it is able to ensure a profitable turnover or return,

in terms of appropriate development of human resources. The proof of the appropriateness of human resource development, again, is reflected by proper and proportional occupational engagements for both men and women in the society. Unfortunately, certain statistical data, pertaining to the ratio of occupational engagements between males and females during last two years do not corroborate such facts.

The data that have been collected on the occupational engagements of males and females for the years of 1971 and 1981 in urban areas, have certain limitations. Only four or five groups of occupations have been cited, just to provide an example, showing disproportional ratio of occupational engagements between males and females. Besides, each group of occupation comprises several levels of education. For the purpose of this discourse, only one level of education, i.e., postgraduate, has been considered and because of the exclusion of other levels of education, the male-female percentages do not add up to 100.00%.

The groups of occupations that have been selected, are, physical scientists, physicians and surgeons, jurists, teachers and administrative and executive officials. A detailed description of each group have been provided in the table detailing the occupational engagements between males and females during 1971 and 1981 in urban areas at the postgraduate level of education.

**Percentage of Occupational Engagement on the Basis of Occupational Groups, Sex and Education Level**

Sl. No.	Occupational Groups	1971 (Urban)		1981 (Urban)	
		Postgraduate level		Postgraduate level	
		Male	Female	Male	Female
1.	Physical Scientists	27.87%	2.47%	27.60%	1.78%
2.	Physicians & Surgeons	1.30%	0.11%	1.86%	0.23%
3.	Teachers	11.48%	3.33%	12.50%	5.38%
4.	Jurists	13.31%	0.20%	15.90%	0.49%
5.	Administrative & Executive Officials	5.90%	0.19%	12.12%	0.61%

Note: 1. Physicists, Chemists, Meteorologists, Geologists etc.,

2. Dentists, Veterinarians, Dieticians, Nutritionists, Public Health workers etc.,

3. University, Colleges, Higher Secondary, High School, Primary School, Craft, Special Education etc.,

4. Judges, Lawyers, Magistrates etc.,

5. Government, Local, Quasi-Govt., State etc..



The table shows that, there have been a consistently disproportional representation of the percentages of men and women in certain occupational groups during 1971 and 1981. It is also noticed from the table that, except in the occupation group of teaching in 1981, when there was an improvement among women than what it was in 1971, the percentages of women representation in all other occupation groups have been lowered in 1981 than what they were in 1971.

The reasons for this lopsided development of our human resources, no doubt, are many. Yet it would perhaps not be irrelevant to point out the significant role of the curriculum as one of the major factors of education which conditions largely the minds of our young womenfolk even from their tender age.

The host of literature that feeds the syllabi of academic curriculum is replete with highlights of women's obligation to the family, to the society and to the civilization. The dictates therein are mostly tradition oriented, double standard value perceptions, reflected through our mythological stories, through our literature and even through the prescribed courses of study. Dr. Jahan has aptly said, "...girls are taught the two virtues, patience and sacrifice, of ideal Bengalee womanhood ....". Again she said, "Both folklore and the religious tradition idolize women who made immense sacrifices for their husbands ... They also learn to accept the essentially inferior status of women in society. As they grow up they perceive the treatment given to their brothers, father and other male members of the family and they are told that getting less of everything and not complaining about it is the ideal behaviour pattern of a good woman ....".

In the context of the above discussion, the true sense of education is in need to be redefined in the broadest possible sense of the term, particularly for the women in modern age. This is essential for inculcating a new, single and an uniform value judgement amongst women, consistent with the emerging world and the desired role that the women can play from their own angle of vision and not from the viewpoint of those who dominate the society in transient time.

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## Administration in Private College

(Contd. from page 4)

The college head appears to be more of an administrator than an instructional leader and spends most of the time in dealing with routine administrative chores rather than with academic matters. The head of the college is, by training and profession, an academician. He rises to the level of headship by virtue of his accomplishments in and contribution to the pursuit of excellence in academic fields. In order to make it possible for him to play a role which is more befitting to his background and profession, the following suggestions are made: (1) Delegation of administrative duties and authority among members of the administration; and (2) creation of a post of Administrative Manager which would allow more time for college head to perform the role of an instructional leader.

The incumbent to this post should have specialised training in educational administration to take responsibility for many of the administrative duties of the college. Pending acceptance of this suggestion, the existing Registrars/Superintendents in the college, who have some years of experience may be designated as Desk Officer with effective decentralisation of and substantial delegation of powers. Now is the time for Vice-Chancellors of the universities and state governments to consider the same seriously and act quickly.

## Teacher Education in Rural Development

(Contd. from page 9)

education and the society. The teachers will need to be properly oriented to understand problems and programmes of national reconstruction with emphasis on rural development. This will require the reshaping of the curriculum for teacher preparation. Currently, teacher education programmes are limited in their capacity to produce qualified teachers in rural development. Most of the teacher education institutions are concerned with the cognitive growth of trainees and skill development is minimized. As a consequence, teachers do not develop a clear understanding of the problem of national and rural development, nor of their role in this regard. If the curriculum of teacher education requires change, it is equally important that training methodology also changes. Teacher education has to be undertaken in the community setting. Teachers should practice and experience skill training in rural development rather than simply discussing this matter. This can be accomplished through a programme of practical work in rural areas. A well designed and well implemented programme of practice work also has a high probability of developing good attitudes.



# Know Thy Ancestors

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Prof. B. D. Nagchaudhuri, Distinguished Scientist and former Vice Chancellor, Jawaharlal Nehru University, delivered the Convocation Address at the annual convocation of the Burdwan University. Making a strong plea for a systematic study of Anthropology, he said, "The homoerectus spread from Africa where it evolved to Europe and Asia. They surely must have diffused into the fertile Indian plains. There is yet no evidence of this. However, evolutionary anthropology is one of the exciting areas of study which seems to have not attracted much attention. To understand Homo indicus, however, we must follow on the steps of Homoerectus through both its evolution and diffusion to Homo indicus today (anthropology & sociology)". Excerpts

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A convocation has antecedents of clerical and religious connotation particularly, Christian and Monastic in origin. The entire paraphernalia was imported wholesale from the U.K. into India when our three Presidency Universities of Calcutta, Bombay and Madras were founded in 1857. We accepted the entire British structure and found no reason, at least at that time to question it. Rabindranath, a dropout and a sensitive soul later rebelled, tried to set up Visva-Bharati as an alternative educational model.

tely, in effect, the changes became cosmetic, rather than substantial when they were implemented. Why did this happen? In my view, we were trying to contend with several problems at the same time. It was further aggravated by our social and political attitudes.

Learning is not uniquely human, although it is man who has elaborated learning. Many animals learn and teach their young. The birds and the higher mammals, particularly, teach their young to hunt for food and water, to stay together for both safety and company. Mam-

## CONVOCAATION

At Jadavpur, a National Council of Education was founded much later to provide an alternative technical education model just after World War I.

A serious effort to remodel our education came with independence. Several commissions were set up to suggest alternative structures, contents and approaches. Unfortuna-

als remember and many observers have noted their ability to remember and avoid dangers. Jane Goodall tells the story of a gorilla tribe that avoided cars and jeeps, years after a young gorilla had been shot at and killed from a Jonga which was on a Safari. Goodall analysed the event, and suggested an implied if not explicit communication so that all

members of gorilla tribe had come to know that moving vehicles were dangerous even if they had not seen the event themselves.

The factor of group living and the strong interactions between the individuals of such groups is an evolutionary force of some consequence. It leads eventually to learning in many of the species particularly the higher mammals. The ability to communicate to the entire group or tribe is an extraordinary feature of primitive behaviour. The story of Jane Goodall in East Africa of two apes being shot by some visiting tourists from a Jonga has been substantiated in the case of many of the higher mammals and proves internal communication within groups of animals. Somehow information relating to danger and food are communicated, absorbed and acted upon.

Man's great step forward was the ability to transfer information to the group in increasing detail as he evolved. We are led to conclude that language has been long in the making and its formulation and dissemination, in all probability, runs parallel to the invention of tools. Language was the major catalyst to both food using and tool making. What we know of language and its evolution and dissemination, it appears reasonable to think in terms of a strong genetic component which led to development of first the Wernicke's area in our brain and later, the Broca's area of the brain and their synergistic evolution in the articulation of precise sounds by the vocal organs on which language depends. In parallel the evolution of the soft tissues of the vocal organs have developed but the fossil evidence is inadequate to provide evidence.

Of course we cannot consider language in isolation. It is essential-



ly a group phenomenon. The larger a group, the more essential it is to establish communication between individuals of the group particularly if it is an extended community where distances are encountered and contact has to be maintained through larger distances. Language can evolve through a number of seemingly unrelated factors. The development of areas of the brain such as Broca's require genetic factors in addition to the ecological separation of groups. That is, language requires not only certain physiological and anatomical developments which are mostly genetic endowments, they also require the establishment of certain synergistic relations of positive feedback to be established. For example, articulation of words is a complex process requiring the tongue, the teeth, the lips, the vocal chords etc. The coordinated development of all the separate organs, which in addition, have their separate roles must have required a rare evolutionary jump amounting almost to a discontinuity. However, it appears that both the Broca's area, and the complex coordination of the vocal organs, the modification of the hand and the precision grip seem to have happened almost simultaneously. This was as much of a revolution as an extraordinary evolutionary jump. The sudden speeding up of the evolution process due to synergies, is not unique to human evolution. The biologist Stephen Jay Gould has called this character punctuated equilibria. However, in our species the *Homo sapiens*, it has been an occurrence which took place in a few steps in an amazingly short time. It was tremendously consequential to the future of our species and the eco-space that was occupied by the species.

In many ways, the pattern was not unique to man as we know him. There was a proliferation of man-

like species among them *Homo habilis*, the Gracile and robust *Australopithecines*, the early *Homo erectus* and the late highly evolved *Ramapithecus*. However, all these species became extinct except for *homo erectus* which survived and spread to the three continents. This was our progenitor species.

From the *homo erectus* to modern man there is almost a linear progression. From the *homo erectus* speciation, too, seems to have taken place. There are evidences of some false starts, branching and extinctions which we fully do not understand. We can speculate on the reasons but do not know exactly nor can we clearly identify most of them. One such case is that of Neanderthal man who evolved somewhat differently but in parallel to us, *homo sapiens sapiens* at about the same time. They occupied a similar ecospace and developed strong bonds of group life. We do not know what led to their extinction, some thirty or forty thousand years ago. We only know that they also evolved to about the same level as ourselves and disappeared perhaps some thirty to fifty thousand years ago. They used stone tools and made these. They used and controlled fire. For the last twenty or thirty thousand years, we are the only human species on earth.

The cultural efflorescence of Neanderthal man was remarkable. Perhaps the most striking evidence of their culture is what we now call the Shanidar burial, discovered in North-Western Iraq. This calls for a reassessment of the Neanderthal culture in relation to our own. We can only speculate why and how most of the Neanderthal tools disappeared. We know some of the Mousterian tools were made by Neanderthal people. Speculation apart, this negates the idea that

human evolution through speciation, and environmental isolation leads ultimately to new species being formed. Neanderthals and ourselves is an example of coevolution in the same eco-space. In the last fifty thousand years, man has come to dominate the globe. We certainly are the controlling species in the population dynamics of the globe. That is not just other animals and man, but all the species of the globe.

We also have evidences of increases and decreases in populations of various species which we attribute to biological success, which, at best is a vague notion. The problem is that a fossil is the end result usually of accidents and long geological process. The absence of fossils is not a definite proof of the non existence of a species. However, for the higher animals, many factors intervene, the record is fragmented and deductions are often hazardous.

The study of early beginnings of man faces these difficulties. The process of learning so unique to higher animals, particularly mammals, cannot be deduced from the fossil record. We must additionally study human behaviour, and the behaviour of neighbouring species in the wild particularly those who share human traits and behavioural similarities. Unfortunately, in Indian universities, these are not popular subjects and hardly any university has such programmes of study and research. Chandigarh made an interesting beginning. Most of it seems to have petered out.

I contend our learning, our education can benefit from such study and research. The Europeans had initiated classical behavioural psychology (Watson et al) but now have gone into direct behavioural



field studies with benefit (e.g. Lorenz).

India is to a large extent an unexplored area. The discovery of the Ramapithecus and other related species (such as Sivapithecus and Gigantopithecus) did inhabit areas such as the Siwaliks and the foothills. Most of these are isolated discoveries and no connected sequences have yet been discovered.

The homoerectus spread from Africa where it evolved to Europe and Asia. They surely must have diffused into the fertile Indian plains. There is yet no evidence of this. However, evolutionary anthropology is one of the exciting areas

of study which seems to have not attracted much attention. To understand Homo indicus, however, we must follow on the steps of Homoerectus through both its evolution and diffusion to Homo indicus today (anthropology & sociology).

To you my dear students, who may be wondering why all this anthropology in a convocation lecture. I want to remind you that anthropology has many roots. Physicists, Chemists, Geologists and Biologists have contributed in a large measure to its present stage of deeper perception. It is likely to be even more so in the future. These sciences and others are likely to con-

tribute even more in the future to the various aspects of Anthropology. Alvarez, a Nobel Prize winning Physicist has during the seventies done some excellent work on the Cretaceous-Tertiary boundary and the sudden extinction of the large Saurian population. There are many such curiosities to be explored and understood. You are fortunate that you live in an area which is the edge of the famous Gondwana formation from which most of our coal comes. There are perhaps exciting possibilities to explore and you are located in the area. May I wish you an intellectually stimulating and exciting life.



# UNIVERSITY OF MADRAS

## NOTIFICATION

Applications are invited for admission to the following courses in the University Departments at Dr.A.L. Mudaliar Post-Graduate Institute of Basic Medical Sciences, Taramani, Madras-600 113, for the academic year 1991-92.

MD Course in Microbiology  
MD Course in Physiology  
MD Course in Pharmacology  
MD Course in Pathology  
Diploma Course in Clinical Pathology

Prospectus and Application forms can be had from the Registrar, University of Madras, Madras-600 005, on written requisition with a Demand Draft for Rs.30/- for M.D. Courses and Rs.20/- for Diploma Course in Clinical Pathology drawn in favour of the Registrar, University of Madras.

In case, the application is required to be sent through post, candidates are advised to send along with the written requisition, a self-addressed envelope (size 28 x 13 cms) stamped for Rs.2/- towards ordinary postage or for Rs.8/- towards Registered post charge. **POSTAL ORDERS AND MONEY ORDERS ARE NOT ACCEPTED.**

The last date for issue and for submission of filled-in application for M.D. Degree Course in **25-7-1991.**

Filled-in applications should be sent directly to the Head of the University Department concerned at Dr. A.L.M. Post-Graduate Institute of Basic Medical Sciences, Taramani, Madras-600 113 and not to the Registrar, University of Madras, before the expiry of the last date prescribed.

The University reserves the right to start or suspend the conduct of any of the above courses, if the circumstances so warrant.

University Buildings,  
Chepauk, Madras-600 005

**Dr. A. Sivamurthy, Ph.D.**  
**REGISTRAR-IN-CHARGE**



# Distance Education Council on the Anvil

A Distance Education Council is being set up in the country to bring reforms in the non-conventional methods of teaching so that a higher standard of quality education is offered to students outside the reach of conventional centres of learning. The Council will serve the purpose of coordination and maintenance of standards. This was revealed by Prof V. C. Kulandai Swamy, Vice-Chancellor of the Indira Gandhi National Open University (IGNOU) recently.

The Council is being set up under the provisions of the Act governing IGNOU and the proposal has been cleared by the Board of Governors. It is awaiting final clearance from the Government.

Prof. Kulandai Swamy said as of now there is little coordination

identify one centre for the preparation of the material for particular programme in collaboration with other universities so that quality may be high and the cost low".

Every university while adopting the courses could introduce such modifications as may be needed once the core was decided, the Vice-Chancellor added.

Buttressing his argument he said that in Australia, a much smaller country with a population many times less than that of India, the Government identified a particular centre or university for preparation of material for distance education and called it a Distance Education Centre (DEC).

The Government funded only that university for the preparations of the courses for that programme.

Council, when set up, will serve the purpose of coordination, promotion and maintenance of standards.

The absence of a mechanism so far was a major deficiency in the distance education system, he pointed out adding that the relevant statutes were being finalized in consultation with the University Grants Commission.

## Birla Science Prize 1991

The B.M. Birla Science Centre, Hyderabad has instituted the annual B.M. Birla Science Prize. The award carries Rupees One lakh to be divided equally between two of the four subjects, viz. Mathematics, Physics, Chemistry, Biology per year by rotation. The prize is given for outstanding contributions to the relevant field by Indian Scientist/Scientists who should not be more than 40 years of age on the 31st of December of the year for which the prize is given.

The B.M. Birla Science Prize for the year 1991 will be awarded in Physics and Biology. All matters relating to the prize are decided by a special board which consists of internationally renowned scientists from these disciplines. The decision of the board is final.

Self nominations containing all pertinent information may be sent to the Director B.M. Birla Science Centre, Adarsh Nagar, Hyderabad - 500 463 latest by 30th of September 1991.

## CAMPUS NEWS

among the many distance education institutions in the country and the Council will go a long way in achieving it thereby saving time, energy and money now being spent on duplication of efforts.

There are now 46 distance educational institutions in the country — five open universities and 41 conventional centres which impart education through correspondence.

Giving an instance of duplication of efforts, Prof. Kulandai Swamy said "there are 26 universities that offer B.A. degree programmes in subjects like history and economics. The contents are almost the same, but unfortunately each one of the universities prepares the courses and prints the material independently leading to waste of time, money and effort. It is possible to

Others could use the material and offer for the programme

Such an arrangement was relevant and useful for a country like India, stressed Prof. Kulandai Swamy.

The Vice-Chancellor was optimistic that the Distance Education

## News from Agril. Universities

### ALGAL Biofertilizers in Rice Farming

An Internal Workshop of the Indo-US Senior Scientific Panel Programme on Biological nitrogen fixation by blue green algae and Azolla was recently held at Tamil

Nadu G.D.Naidu Agricultural University, Coimbatore. Inaugurating the workshop, Dr.S.Jayaraj, Vice-Chancellor stressed the need of biofertilizers in Indian Agriculture



to meet the deficit in inorganic nitrogen in crop production. He mentioned that the present import bill in India for fertilizers was around 784 million US dollars and that nearly 261 million US dollars could be saved by including biofertilizers in the integrated nutrient management of the crops. He emphasized the need for the integration of algal and Azolla biofertilizers as a package of technology for rich farming.

In his keynote address Dr.R.K. Bhatnagar, Director, Department of Science and Technology, New Delhi, mentioned the major achievements in terms of genetic improvement as well as culture collections and maintenance for further exploitation under Indo-US programme. He stressed the use of cyanobacteria on soil health and fertility improvements in sustainable Agriculture.

Dr.M.Velayutham, Assistant Director General, Indian Council of Agricultural Research, New Delhi, who delivered the special address, emphasized the importance of biofertilizers in rice farming system to improve the nitrogen availability to rice crop. He also mentioned that sporocarp inoculum technology developed in Tamil Nadu G.D. Naidu Agricultural University was a breakthrough in Azolla biofertilizer research. Azolla sporocarp technology, he said, was a viable technology under integrated nutrient management in rice production and it was a boon for rice farmers in Asia.

Prof.S.Kannaiyan, Principal Investigator of the project outlined the recent scientific developments in the field of Azolla biofertilizer and indicated the favourable ecological condition for the mass production and utilization of Azolla biofertilizer.

## Summer Institute on Integrated Farming

The 3-week Summer Institute on Integrated Farming System for small and marginal farmers organised at Haryana Agricultural University in collaboration with Indian Council of Agricultural Research (ICAR) recently concluded at Hisar. Dr. R. S. Paroda, Deputy Director General (Crops), ICAR was the chief guest at the function.

Speaking on the occasion, Dr. Paroda emphasised the need to examine scientifically the practices of integrated farming already adopted by the farmers and to suggest information for making it more efficient and economically viable. He said that for improving the economic status of the farmers, integrated farming approach today was more relevant to small farmers who had to depend for their livelihood on a small piece of land. Instead of traditional farming, now time had come, when due emphasis had to be given on diversification of agriculture which all farmers could adopt for dairying, poultry, fishery, horticulture and bee-keeping. Emphasising on conservation of soil, Dr. Paroda cited the example of integrated farming system adopted by the farmers of China to whom the conservation is the key word be it organic cycling, integrated nutrient management, integrated pest management and integrated animal production. Similarly, agro-forestry approach should also form a major component of the integrated farming system.

Over 30 participants from different agricultural institutes of the country took part in the programme.

## Equilibria and Availability of Boron in Calcareous Soils

A research study conducted at the Rajendra Agricultural University revealed that the optimum level

of boron for chickpea in most of the calcareous soils was 1 ppm with average grain yield response of 45%. However, few soils responded at 2 ppm B level with average grain yield response of 30%. Boron concentration in grain was much less than straw showing thereby its slow mobility within plants. Out of seven extractants viz. 1N  $\text{NH}_4$  OAC (pH 7.0), hot water, 1N  $\text{NH}_4$  OAC (pH 4.8), 0.01M  $\text{CaCl}_2$  + 0.05 M Mannitol (pH 8.5), 0.01M  $\text{CaCl}_2$  + 0.01M Mannitol (pH 8.5), 0.01M  $\text{CaCl}_2$  (pH 8.5) and 0.05M HCL, only first five were found promising for measuring the available B in these soils. Among these five, 1N  $\text{NH}_4$  OAC (pH 7.0) emerged as most promising extractants followed by hot water. The critical limit of soil available B was 0.30 ppm and 0.57 ppm with the use of 1N  $\text{NH}_4$  OAC (pH 7.0) and hot water, respectively below which profitable responses to B application can be expected. The critical concentration of B in 45 days old chickpea shoots was worked out as 12.6 ppm. The B adsorption data were fitted into different adsorption models. For most of the soils the adsorption data did not conform the Langmuir and Temkin adsorption isotherms over the entire range of equilibrium B concentration. The BET equation gave comparatively better fit than Freundlich equation. Among different kinetic models, the parabolic diffusion adequately described B desorption from these calcareous soils.

**Sher Singh Visits, TNGDNAU**

Prof. Sher Singh, former Member, Planning Commission, recently visited Tamil Nadu G.D. Naidu Agricultural University. He was taken around by Dr. S. Jayaraj, the Vice-Chancellor and appraised of the recent developments in farm re-



search. Mini exhibitions and demonstrations were also arranged.

Addressing the scientists, Prof. Singh lauded the team work of the scientists of TNGDNAU, upon which the strong research base was built to accomplish desired dividend in the frontier areas in agricultural research and development. Appreciating the two decades achievements as Agricultural University as the foremost institution in the country, he deemed the visit as very educative and such experiences would be of much help in formulating need-based planning at macro-level. Accordingly, for each of 70 sub-zones in India, the action strategy had to be formulated and implemented, aiming for optimum use of land and water which were scarce resources, he opined.

"We, in India, can be proud of having attained self sufficiency in Food Production in which the role of farm scientists is significant", said Prof. Singh. Referring to the challenges facing the agricultural sector, he appreciated that the scientists of TNGDNAU had accepted the challenges in proper perspective and were working towards the goal through team spirit and action. He said a time bound programme had to be formulated for the effective utilisation of biofertilizers and chemical fertilizers to get optimum production and at the same time not allowing the soil to get deteriorated.

Prof. Sher Singh evinced keen interest in Natural Farming and Soil and Plant Health Care and called upon the Scientists to develop research strategies so as to minimise the use of chemicals in agriculture as it was not possible to do away with it completely. Appreciating the research work on pesticides in the University, he said "a time may come when we may be able to manage without pesticides or atleast with minimum use of it". He compli-

mented the contribution of TNGDNAU in the field of bio-technology and stated that this upcoming field was fast becoming very important in Indian Agriculture.

Referring to the agricultural education programmes of the University, Prof. Singh said that the Commercial Agriculture Courses which had been introduced recently in the curriculum in about 12 subjects would lead not only to self employment of farm graduates but also to increase our export and facilitate earning foreign exchange. "This University should make greater contribution in this and serve as a model in the country", he said.

Earlier, Dr. S. Jayaraj, Vice-Chancellor of TNGDNAU welcomed the gathering and asked for enhanced support for carrying out the research, education and transfer of technology programmes of the University so that the technologies developed in this University could benefit farmers in all parts of the country.

Dr. S. Chelliah, Director of Research, outlined the research perspectives of TNGDNAU and explained methodically how the farm problems of respective zones were solved through forums like Regional Research Council. He said that there were more than 300 sub-projects operated at present by the University.

## **Tillage, Water and Nitrogen Interaction in Rice-Wheat Cropping Sequence**

In a two year field investigation conducted on a sandy loam calcareous soil at Pusa Farm under the auspices of the Rajendra Agricultural University, attempts were made to evaluate the influence of tillage, water and nitrogen levels on some of the soil physical properties, weed and crop growth, water requirements, energy relations and grain yield of crops in rice-wheat cropping sequence. Results of the investigation revealed that in rice deep tillage using M B plough drawn by a Cage wheel mounted tractor suppressed weed growth, reduced water infiltration, hydraulic conductivity and water loss with a consequence reduction in crop water requirements by about 32 cm (from 110 to 78 cm) without affecting the grain yield adversely. In case of wheat, deep tillage although suppressed weed growth but grain yield for deep and conventional tillage was at par with each other. It was also evident that at least three irrigations adding about 24 cm of water within 0-90 cm root zone are required in addition to rainfall for optimum wheat yield. For rice-wheat sequence as a whole, deep tillage for rice followed by conventional tillage for wheat has been found to be appropriate.

## **News from UGC**

### **Countrywide Classroom Programme**

Between 22nd July to 31st July, 1991 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants

Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is



available on the TV Network throughout the country.

**Ist Transmission**  
**1.00 p.m. to 2.00 p.m.**

**22.7.91**

"Polarization of light"  
"Elements of Marketing"  
"Scientific Storage of food-grains"

**23.7.91**

No Telecast

**24.7.91**

"Fire Protection Technology"  
"Glimpses of Ladakh - II"  
"Effect of Air Pollution on Plants"

**25.7.91**

"Memories"  
"Phosphate Rock"  
"Shakespeare : His life and works-II"

**26.7.91**

"Simplification of Switching Circuits - III"  
"Three New Drugs"  
"Wood for the tree"

**27.7.91**

"Artist Against Communalism - II"  
"Chola Art"

**28.7.91**

No Telecast

**29.7.91**

"Optical Alignment - I"  
"Test Chart"  
"Groundnut Production : Improved Technology for higher yields -I"

**30.7.91**

"Hydrogen Atom"  
"Learning Through Games"  
"Bio-medical Engineering"

**31.7.91**

"Large Scale Mapping by Modern Methods"  
"The Pursuit"

**IInd Transmission**  
**4.00 p.m. to 5.00 p.m.**

**22.7.91**

"The Fictitious Forces - The Origin"  
"Contract Act - I"  
"Bonsai : The Green Dwarfs"

**23.7.91**

No Telecast

**24.7.91**

"Solar Research - III"  
"Man And Environment"  
"Principles of Biosystematics - II Principles of Classification"

**25.7.91**

"Remote Sensing (Space)"  
"Shadow Puppet Making"  
"Towards Better Spoken English-VI: Sentence, Accent and Rhythm"

**26.7.91**

"Parabola : Lecture by Prof. V. Kannan"  
"The Shadows of Thought"  
"Learning From Nature-I: Neglected Nectar"

**27.7.91**

"A Talk With Prof. Holme-III"  
"Mudra : The Art of Communication"  
"Music-IV : Voice Culture"

**28.7.91**

No Telecast

**29.7.91**

"Vibrational Spectroscopy"  
"Contract Act - II"

**30.7.91**

"Performing a Titration"  
"Eat Baby Eat - Grow Baby Grow"

**31.7.91**

"Large Scale Mapping by Modern Methods"  
"The Pursuit"

## News from Abroad

### Awards for Great Teachers

Baylor University, USA, has invited nominations for two awards — The Robert Foster Cherry Chair for Distinguished Teaching and The Robert Foster Cherry Award for Great Teachers. Both awards are made possible through the generosity of Mr. Robert Foster Cherry, a Baylor University alumnus.

The purpose of the awards is twofold: to recognize great teachers and to expose Baylor University students to the world's greatest teachers.

Mr. Cherry described such a teacher as "a lover of the acquisition of learning who can inspire his students, arouse their imagination, and stimulate their curiosity to desire to learn everything that man can know, and achieve everything that man can reach and grasp."

The recipient of the Distinguished Teaching Chair will receive an award of one hundred thousand dollars (\$ 100,000). Acceptance of this award will require the recipient



to teach at Baylor University for a period of nine months; travel expenses and a furnished apartment will be provided. The award for the Great Teacher will be twenty-five thousand dollars (\$25,000). Acceptance of this award will require the recipient to present a series of lectures at Baylor University over a period of several days during the fall and spring semesters.

The Robert Foster Cherry Awards for Great Teaching are given annually to honor two outstanding professors in the English-speaking world who are distinguished for their ability to communicate as classroom teachers. Professors in any recognized academic discipline who have a record of extraordinary teaching, significant contributions to the lives and careers of students, and outstanding achievements are eligible to receive the award. Individuals nominated for the award should meet the following criteria:

- extraordinary teacher
- record of positive, inspiring, and long-lasting effects on students
- scholar with national and international achievements
- resident of an English-speaking country.

Selection of the recipients of the awards will be based on information from the following sources:

- curriculum vitae
- summary statement, not to exceed two pages, describing how the nominee satisfies the four selection criteria
- at least three but not more than eight one or two-page letters from distinguished former students, colleagues, academic deans, and others supporting the nomination

- bulletin descriptions of representative courses the nominee has taught during his or her last full year of teaching
- a contact person — i.e., the person making the nomination — along with the contact person's title, address, and telephone number.

Nomination forms and additional information regarding the Robert Foster Cherry awards can be obtained by contacting the Robert Foster Cherry Awards Committee, Baylor University, PO Box 97412, Waco, Texas 76798-7412, U.S.A.

### New Universities for Japan

The University Chartering Council of Japan's Ministry of Education has given approval for six universities and one junior college to open during the 1991/92 academic session.

The latest additions to Japan's lengthy list of institutions of higher education will be privately operated, raising the total number of private universities and junior colleges to over 800.

The ministry has also given approval for 11 new schools at existing private universities, and 10 new departments at junior colleges, to open during the year.

Private institutions now provide higher education for around 75 per cent of the country's two million university students, and 90 per cent of its 400,000 junior college students.

Yet Japan's private higher education sector has been criticised for placing too much emphasis on "low-cost" courses in the humanities and social sciences rather than more expensive natural science courses

which require specialist laboratories and equipment.

Private institutions are also criticised for their high student-lecturer ratios and the corresponding lack of contact between students and dons.

The new universities will increase the competitions for students at a time when student rolls are expected to fall.

Less popular universities, and departments within universities, are expected to close after 1992 when the number of 18-year-olds starts to decrease.

Some critics say that too many universities has resulted in standards of higher education that are lower than those accepted by many other countries.

But opponents to that view argue that the large number of universities are providing learning opportunities for students who would otherwise be unable to receive the benefits of higher education.

### Putting Research Resources to Work

A National Centre for Research Policy has been established at the University of Wollongong, south of Sydney, with the aim of making maximum use of Australia's research resources. The Centre is under Professor Steven Hill and Professor Ron Johnston. It will set up a theoretical and practical database to give Australia an international economic competitiveness based on intellectual advantage.

According to *Univation*, the Australian Vice-Chancellors Committee magazine, the centre's four initial programs will cover the:

- management of the research system;



- new ecology of knowledge exploitation;
- culture of research policy and management; and
- international comparative research on research policy and management.

Professors Hill and Johnston have collaborated on research for 22 years in the United States, the United Kingdom and Australia.

Former chemists who turned to the social sciences to understand the nature of scientific enquiry and its use, they established the Centre for Technology and Social Change (TASC), a contract research unit, four years ago.

It provides advice, consulting, research and training in science policy, innovation, technology strategy and management to a wide range of public and private-sector clients.

The new special research centre will look at new forms of research management to foster creativity, flexibility and application.

Professor Johnston is a member of the Australian Science and Technology Council with an international reputation in science and technology policy.

Professor Hill is chairman of the UN Science and Technology Policy Asian Network, specialising in the sociological analysis of scientific and technological enterprise and innovation.

### **TWAS Prizes for Young Scientists in Developing Countries**

Among the aims of the Third World Academy of Sciences (TWAS) is the development of high-level scientific man-power in Third World countries by identifying

young talented scientists through the recognition of their merits and by promoting the growth of their creativity.

The Academy pursues this aim by offering financial assistance to Academies and Research Councils in Third World countries to enable them to institute prizes and medals for young scientists in their countries.

The prizes, which normally amount to US\$2,000 each, are

usually awarded annually and rotate among the four fields of pure science: Biology, Chemistry, Mathematics and Physics.

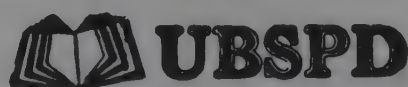
The specific regulations governing the nomination and the presentation of the prizes are laid down by the conferring institution.

For further details, contact The Third World Academy of Sciences, c/o International Centre for Theoretical Physics (ICTP), P.O. Box 586, 34136, Trieste, Italy.

## **TEXT BOOKS UNDER LOW COST SCHEME**

### **ECONOMICS**

Beckerman W	An Intro. to National Income	Rs 45.00
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The Library also receives about a 100 periodical titles on Higher Education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research Scholars and students of education are welcome to use these resources. The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

## RESEARCH IN PROGRESS

### A list of Research Scholars registered for Doctoral Degrees in Indian Universities

#### SOCIAL SCIENCES

##### Psychology

1. Ajith, P R. **A psychological study of criminals of misdemeanors and felonies.** Kerala. Dr S Jayakumari, Reader, Department of Psychology, University of Kerala, Kariavattom.
2. Bhardwaj, Naresh Kumar. **Effect of vocational counselling on vocational maturity and choice of rural/urban high school students with different levels of intelligence.** Panjab. Prof (Mrs) Vidhu Mohan, Department of Psychology, Panjab University, Chandigarh.
3. Jaswal, Sneh Lata. **The role of elaboration and arousal in direct and indirect priming.** Panjab. Dr J M Jerath, Department of Psychology, Panjab University, Chandigarh.
4. Kakkar, Neeraj. **A study of reminiscence of gifted, normal and mentally retarded children.** Panjab. Dr Jitendra Mohan, Department of Psychology, Panjab University, Chandigarh.
5. Krishnan, Radhika. **A comparative study of the children of employed and unemployed women along certain selected personality variables.** Kerala. Dr K Devadasan, Prof and Head, Department of Psychology, University of Kerala, Kariavattom.
6. Shaji, T. **Leadership behaviour among college students in Kerala.** Kerala. Dr Immanuel Thomas, Lecturer, Department of Psychology, University of Kerala, Kariavattom.
7. Surjit Singh, Rameena. **A study of job alienation: Personality and organizational correlates.** Panjab. Dr Meena Sehgal, Department of Psychology, Panjab University, Chandigarh.

##### Social Work

1. Patil, Nandkumar Tukaram. **A study of rural development process with special reference to Ralegansiddhi, Tehsil Parner, Dist. Ahmednagar, Maharashtra.** Shivaji. Dr A D Madgulkar, Chh Shahu Central Institute of Business Education and Research, Kolhapur.

##### Sociology

1. Ahuja, Babita. **Social action groups in Himachal Pradesh: A sociological inquiry into their organization and transformative role.** Panjab. Prof S L Sharma, Department of Sociology, Panjab University, Chandigarh.
2. Chikodkar, Sharayu Shrikrishna. **Women in white collar jobs: A study in social change with special reference to Kolhapur City.** Shivaji. Dr M J Kashalikar, Devchand College, Arjunagar, Dist Kolhapur.
3. Durugkar, Arunkumar Rajendra. **Contributions of Doshi family to Solapur: A sociological study.** Shivaji. Dr R B Patil, Department of Sociology, Shivaji University, Kolhapur.
4. Mahajan, Madhurima. **Dynamics of conjugal relations: A sociological study of wife abuse at Chandigarh.** Panjab. Prof P N Pimpley, Department of Sociology, Panjab University, Chandigarh.
5. Mridula, Venugopal, S. **Socialization and gender discrimination: Girl child among the Muslims in Kerala.** Kerala. Dr M Indukumari, Reader, Department of Sociology, University of Kerala, Kariavattom.



6. Rattan Kiran Bala. **Development schemes for rural women in Panjab: A sociological study** Panjab. Prof S L Sharma, Department of Sociology, Panjab University, Chandigarh and Prof Pam Rajput, Director, Centre for Women's Studies, Panjab University, Chandigarh.

7. Rohini. **Development welfare programme and tribal life pattern.** Kerala. Dr G Ramachandra Raj, Prof, Department of Sociology, University of Kerala, Kariavattom.

#### Political Science

1. Amarpreet. **Geopolitics of Antarctic Science.** Panjab. Prof M M Puri, Department of Political Science, Panjab University, Chandigarh.

2. Anjugikar, Mallinath Basappa. **A study of public administration in Maharashtra since 1960.** Shivaji. Dr B B Vibhute, Actg Director, Department of Adult and Continuing Education, Shivaji University, Kolhapur.

3. Mathur, Autar Krishan. **Politics of Ocean development: A case study in financial management of research and development in India.** Panjab. Prof M M Puri, Department of Political Science, Panjab University, Chandigarh.

4. Patil, Bharati Tukaram. **Peasants and Workers Party in Maharashtra: A study.** Shivaji. Dr K K Kavalekar, Department of Political Science, Shivaji University, Kolhapur.

5. Patil, Vilas Bhagwanrao. **Krantisinha Nana Patil and his political ideology: A study.** Shivaji. Dr K K Kavalekar, Prof and Head, Department of Political Science, Shivaji University, Kolhapur.

6. Raghavan, P. **Middle class in the leadership and organisation of left parties in Kerala.** Kerala. Dr M Bhaskaran Nair, Prof, Department of Politics, University of Kerala, Kariavattom.

7. Sajad Ibrahim, K M. **Soviet perspectives on the Palestine Question: The major trends in the Post-Stalin period, 1953-90.** Kerala. Dr N K Bhaskaran. Prof and Head, Department of Politics, University of Kerala, Kariavattom.

8. Safee, T E C E. **Political socialisation and behaviour of Muslims in Kerala.** Kerala. Dr D Jayadeva Das, Reader, Institute of Correspondence Courses, University of Kerala, Kariavattom.

9. Sudha, J. **Administration of welfare programmes in Kerala: A study of the traditional sector.** Kerala. Dr D Jayadeva Das, Reader, Institute of Correspondence Courses, University of Kerala, Kariavattom.

10. Varkey, Shaji. **Indo-China and Great Powers: A study of China Vietnam relations from 1975 to 1990.** Kerala. Dr D Jayadeva Das, Reader, Institute of Correspondence Courses, University of Kerala, Kariavattom.

11. Vikramadityan, K. **Politicisation of tribals in Wynad with special reference to Paniyas and Kurumbas.** Kerala. Dr M Bhaskaran Nair, Prof, Department of Politics, University of Kerala, Kariavattom.

#### Economics

1. Chougule, Dattatray Ganpati. **A study of growth and structure of non-tax current revenues of the Government of India, since 1951.** Shivaji. Dr V B Ghuge, Head, Department of Economics, Shivaji University, Kolhapur.

2. Dukare, Brahmadev Bhagvat. **Marketing of oil seeds with special reference to A Grade Regulated Markets in Solapur District.** Shivaji. Dr (Mrs) V M Kashalikar, Devchand College, Arjunagar.

3. Hemant Kumar, R. **Growth of modern small scale industries in Kerala.** Kerala. Dr C Radhakrishnan Nair, Reader, Department of Economics, University of Kerala, Kariavattom.

4. Joshi, Ashok Shripad. **A study of the working of housing co-operatives with special reference to Kolhapur District.** Shivaji. Dr (Smt) S B Pandit, 2335, C-Ward, Shaniwar Peth, Kolhapur.

5. Patidar, Bhurelal. **Dewas Jile ke nagarpalikayon ka nagariya vikas mein yogdan.** Vikram. Dr Ramratan Sharma, Asst Prof, 63, Ravindernagar, Ujjain.

6. Patil, Shivagouda Bhimagouda. **A study of sick small scale engineering units in Kolhapur.** Shivaji. Dr V B Jugale, Department of Economics, ASC College, Sangli.

#### Commerce

1. Aggarwal, Ashok Kumar. **Mandsaur Jile ke grameen vikas mein vanijya bankon ka yogdan.** Vikram. Dr D S Boghra, Prof, Department of Commerce, Madhav College, Ujjain.

2. Chaturvedi, Pravesh Chandra. **Analytical study of legal environment in corporate industrial enterprises in India since 1980.** Kanpur. Dr S M Shukla, V S S D College, Kanpur.

3. Dayanandan, R. **Human resource management in cooperative banks.** Kerala. Dr K Sasikumar, Lecturer, Department of Commerce, University of Kerala, Thiruvananthapuram.

4. Sreekumar, M. **An evaluation of the working of Cochin Port Trust.** Kerala. Dr S Kevin, Lecturer, Institute of Correspondence Courses, University of Kerala, Kariavattom.

5. Tiwary, Geeta. **Analytical study of sick public sector banks in India.** Kanpur. Dr S M Shukla, V S S D College, Kanpur.

6. Wilson, M. **An analytical study of marketing of coffee in India with special reference to Kerala.** Kanpur. Dr S M Shukla, V S S D College, Kanpur.

#### Home Science

1. Dixit, Vibha. **Survey of cooking technology being adopted by the housewives for different food stuffs in B H U Campus.** BHU. Dr D Joshi, Department of Rasa Shastra, Banaras Hindu University, Varanasi and Dr (Mrs) A Chakravorty, Department of Home Science, Banaras Hindu University, Varanasi.

2. Jaiswal, Sunita R. **A study of prevailing food preservation technology adopted by Varanasi community: A streamline (Educational Mission) to increase the awareness.** BHU. Prof Jyotir Mitra, Department of Basic Principles, Banaras Hindu University, Varanasi and Dr (Mrs) N Sant, Department of Home Science, Banaras Hindu University, Varanasi.

3. Padia, Shobha. **Identification of symbols in relation to health and disease.** BHU. Dr H C Saxena, Department of Preventive and Social Medicine, Institute of Medical Sciences, Banaras Hindu University, Varanasi.

4. Pandey, Sangeeta. **Health status of the girl child.** BHU. Dr J Tandon, Department of Preventive and Social Medicine, Institute of Medical Sciences, Banaras Hindu University, Varanasi.

5. Roy, Subhra. **Impact of T V as a mass media in prevention of diseases.** BHU. Dr H C Saxena, Department of Preventive and Social Medicine, Institute of Medical Sciences, Banaras Hindu University, Varanasi.

6. Saroj Kumari. **Effect of diarrhoea on catch up growth in normal and malnourished child.** BHU. Dr D C S Reddy, Depart-



ment of Home Science, Banaras Hindu University, Varanasi.

7. Singh, Anita. **A study of nutritional status of under six years children in urban slum areas of Varanasi.** BHU. Prof S D Gaur, Department of Preventive and Social Medicine, Institute of Medical Sciences, Banaras Hindu University, Varanasi.

8. Singh, Anju. **Effect of food material, ahara dravya for the development of life quality of young girl.** BHU. Dr S D Dubey, Department of Dravyaguna, Banaras Hindu University, Varanasi.

9. Singh, Geeta. **Factors effecting the dietary habits of families of Faizabad and Varanasi cities: Ennocation of some guideline packages to obtain a quality of dietary habits.** BHU. Prof Jyotir Mitra, Department of Basic Principles, Banaras Hindu University, Varanasi and Dr (Mrs) N Sant, Department of Home Science, Banaras Hindu University, Varanasi.

10. Singh, Madhu. **Epidemiological study of low birth weight.** BHU. Prof V M Gupta, Department of Preventive and Social Medicine, Institute of Medical Sciences, Banaras Hindu University, Varanasi.

11. Singh, Purnima. **The problem of old age, retired persons in reference with their nutrition and its management.** BHU. Dr S K Dixit, Department of Rasa Shastra, Banaras Hindu University, Varanasi and Dr (Mrs) Indra Vishnoi, Department of Home Science, Banaras Hindu University, Varanasi.

12. Singh, Rita. **Growth patterns of adolescent school girls in Varanasi.** BHU. Dr J Tandon, Department of Preventive and Social Medicine, Institute of Medical Sciences, Banaras Hindu University, Varanasi.

13. Srivastava, Alaknanda. **Influence of chloride oins in the central regulation of behaviour.** BHU. Dr R D Badgaiyan, Department of Physiology, Institute of Medical Sciences, Banaras Hindu University, Varanasi.

14. Supriya. **Madhumeh rogiyo ka aharvinishya.** BHU. Dr S D Dubey, Department of Dravyaguna, Banaras Hindu University, Varanasi.

## HUMANITIES

### Philosophy

1. Amrit Veen. **A critical study of Sikh idea of God.** Panjab. Prof Dharmendra Goel, Department of Philosophy, Panjab University, Chandigarh.

### Fine Arts

#### Music

1. Dogra, Arun Kumar. **Hindustani sangit mein Sanskrit yoga tatva.** HP. Dr Chaman Lal Verma, Department of Performing Arts, Himachal Pradesh University, Shimla.

2. Leelamma, C K. **Influence of folk music in Karnatic music.** Kerala. Dr M Hariharan, Asst Prof, Department of Music, Sree Sathguru Sangeetha Vidyalayam, College of Music, Thallakulam, Madurai.

3. Misra, Madhur Swar. **Tulsidas ke giti kavya mein sangitatmakta.** HP. Dr I Chakravarti, Department of Performing Arts, Himachal Pradesh University, Shimla.

4. Sharma, Kavita. **Jaysi krit Padmavat kavya mein sangitatmakta ka vishleshnatmak adhyayan.** HP. Dr M Sharma, Department of Performing Arts, Himachal Pradesh University, Shimla.

## Language & Literature

### English

1. Puthiyaparambethe, Ajayakumar. **Post colonial dialectic in the novels of Nayantara Sehgal.** Kerala. Dr A Jameela Beegum, Reader, Institute of English, University of Kerala, Thiruvananthapuram.

### Sanskrit

1. Chand Kishore. **Gadhi boli ke Sanskrit mulak shahda: Ek bhasha vaigyanik adhyayan; Bharmauri ke sandarbh mein.** HP. Dr (Miss) Kamla Devi, Department of Sanskrit, Himachal Pradesh University, Shimla.

2. Desh Bandhu. **Magh ka kavyashastriya adhyayan.** HP. Dr Prem Lal Thakur, Department of Sanskrit, Himachal Pradesh University, Shimla.

3. Dina Nath. **Bharvi virachit kirataarjunya: Ek sanskritik adhyayan.** HP. Dr Prem Lal Thakur, Department of Sanskrit, Himachal Pradesh University, Shimla.

4. Inder Dutt. **Udayan kathashrit Sanskrit roopak: Smalochnatmak adhyayan.** HP. Dr Virendra Kumar Mishra, Department of Sanskrit, Himachal Pradesh University, Shimla.

5. Kashyap, Jeet Ram. **Kiratarjunyam ke patron ka van parva ke sandarbh mein rajnaitik vishleshan.** HP. Dr (Mrs) Vidya Devi, Department of Sanskrit, Himachal Pradesh University, Shimla.

6. Sharma, Rajesh Kumar. **Mahabharat pratipadit yogsandarbhon ka vivechanatmak adhyayan.** HP. Dr Nardeo Shastri, Department of Sanskrit, Himachal Pradesh University, Shimla.

7. Shyama Devi. **Sanskrit mulak Chanali Bhasha: Ek adhyayan.** HP. Dr Baldeo Singh, Department of Sanskrit, Himachal Pradesh University, Shimla.

### Punjabi

1. Badhwar, Sneha Lata. **Panjab folk dance traditions and Guru Nanak Bani.** Panjab. Dr Darshan Singh, Department of Guru Nanak Sikh Studies, Panjab University, Chandigarh and Dr I S Dhillon, Department of Youth Welfare, Panjab University, Chandigarh.

### Hindi

1. Gupta, Devinder Kumar. **Hindi natya shilpa: Badalti rang drishtti.** HP. Dr Om Prakash Sarswat, Department of Hindi, Himachal Pradesh University, Shimla.

2. Kaith, Desh Bandhu. **Amritlal Nagar ke upanyason mein samajik sandarbh.** HP. Dr (Mrs) Krishna Raina, Department of Hindi, Himachal Pradesh University, Shimla.

3. Kashyap, Sushma. **Rangeya Raghav ke upanyason mein itihas aur kalpana.** HP. Dr Anjana Chouhan, Department of Hindi, Himachal Pradesh University, Shimla.

4. Malhotra, Neelam. **Amritlal Nagar ke upanyason mein nari chitran.** HP. Dr (Mrs) Krishna Raina, Department of Hindi, Himachal Pradesh University, Shimla.

5. Mast Ram. **Usha Priyamvada ke katha sahitya mein mulya sankraman.** HP. Dr Shri Ram Sharma, Department of Hindi, Himachal Pradesh University, Shimla.

6. Rai, Sarita. **Saudeshyata ke sandarbh mein Prem Chand ke upanyas.** HP. Dr Raj Deo Singh, Department of Hindi, Himachal Pradesh University, Shimla.



7. Sharma, Hari Ram. **Sathottari Hindi kavita mein lok chetna.** HP. Dr Krishan Kumar, Department of Hindi, Himachal Pradesh University, Shimla.

8. Sharma, Meenakshi. **Krishan katha ke pariprekshya mein Himachali lok-geeton ke anusheelan.** HP. Dr O P Sarswat, Department of Hindi, Himachal Pradesh University, Shimla.

9. Sharma, Rakesh. **Rangeya Raghav aur Amritlal Nagar ke jeevan charitratmak upanyason ke vajcharikta ka vishleshan.** HP. Dr Lallan Rai, Department of Hindi, Himachal Pradesh University, Shimla.

10. Sita Devi. **Swatantrayottar Hindi upanyason mein prem ka swarup.** HP. Dr Kamlesh Gupta, Department of Hindi, Evening College, Himachal Pradesh University, Shimla.

11. Vidya. **Haryanvi krishi evam pashupalan sambandhi lokoktiyon ka vishleshnatmak adhyayan.** HP. Dr Raj Deo Singh, Department of Hindi, Himachal Pradesh University, Shimla.

12. Vijay Kumari. **Shivani aur Mridula Garg ke aupanyasik nari patron ka tulnatmak adhyayan.** HP. Dr Raj Deo Singh, Department of Hindi, Himachal Pradesh University, Shimla.

#### Malayalam

1. Balakrishnan Nair, M S. **Problems of translating creative literature from English to Malayalam.** Kerala. Dr V R Prabodhachandran Nair, Prof, Department of Linguistics, University of Kerala, Kariavattom.

2. Nair, Radhika C. **The search of identity in Malayalam novel: A study based on O V Vijayan.** Kerala. Dr N Mukundan, Lecturer, Department of Malayalam, University of Kerala, Kariavattom.

3. Seena, S. **Hindu personal names in Malayalam.** Kerala. Dr S Radhakrishnan Nair, Research Scientist, Department of Linguistics, University of Kerala, Kariavattom.

4. Suma, K R. **Evolution of Sandhi changes in Malayalam.** Kerala. Dr E V N Namboodiri, Prof, Department of Linguistics, University of Kerala, Kariavattom.

#### History

1. Babar, Bhimrao Shivram. **Life and work of Bhaskarrao Jadhav.** Shivaji. Dr A R Bhosale, Department of History, Shivaji University, Kolhapur.

2. Jaseem, S. **A history of education of Muslim women in Kerala from 1904 - 1964.** Kerala. Dr R N Yesudas, Reader, Department of History, Institute of Correspondence Courses, University of Kerala, Kariavattom.

3. Jawale, Sopan Sambhaji. **Occupations and professions in Maharashtra under the East India Company.** Shivaji. Dr M A Lohar, Department of History, Shivaji University, Kolhapur.

4. Jose, Annie. **A history of the civic right movements in Travancore.** Kerala. Dr K K Kusuman, Reader, Department of History, University of Kerala, Kariavattom.

5. Karadge, Appa Kallappa. **Kolhapur State under Chhatrapati Rajaram-II, 1922 to 1940.** Shivaji. Dr B D Khane, Department of History, Shivaji University, Kolhapur.

6. Patavegar, Lukaman Mahibub. **Seaports and towns on the West Coast of India in the 17th Century.** Shivaji. Dr M A Lohar, Department of History, Shivaji University, Kolhapur.

7. Ramaswamy, Mahesh. **Mysore under Jayachamaraje Wodeyar.** Shivaji. Dr M A Lohar, Department of History, Shivaji University, Kolhapur.

8. Rayamane, Ravindra Sidram. **Indian National Congress and the social reforms in Maharashtra from 1885 to 1950.** Shivaji. Dr B R Kamble, Head, Department of History, Shivaji University, Kolhapur.

9. Vasumathy Devi, P. **The institution of slavery in Kerala with special reference to the modern period.** Kerala. Dr M J Koshy, Prof and Head, Department of History, University of Kerala, Kariavattom.

10. Vijayakumaran, K. **History of nature of crime and punishment in Travancore, 1727 A D to 1937.** Kerala. Dr A Gopalakrishnan, Prof (Retd), TC 9/1597, Santhamangalam.

## THESES OF THE MONTH

### A list of doctoral theses accepted by Indian Universities

#### SOCIAL SCIENCES

##### Library & Information Science

1. Gautam, J N. **Gwalior aur Chambal Sambhag ke viswavidyalayeen evam mahavidyalayeen Bhautiki evam Rasayan Vigyan ke pradhyapakon kee suchana awashyakta evam suchana prapta karane kee pravrittiyon ka vigyanik adhyayan.** Jiwaji. Dr H S Sengar, University Librarian, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

2. Sharma, Anil Kumar. **Information and reference sources in physical education: Critical and comparative evaluation with special reference to user's need.** Jiwaji. Dr SM Tripathi, Prof and Head, Department of Library and Information Science, Jiwaji University, Gwalior.

##### Journalism

1. Anupam Alok. **Press aur sampradayik dangey: Visheshkar Varanasi Nagar ke sandarbh mein, san 1970 se 1980 tak.** BHU. Prof A K Banerji, Department of Journalism, Banaras Hindu University, Varanasi.

##### Psychology

1. Balbir Singh. **A study of environmental perception as a function of personality, sex and age.** BHU. Prof B S Gupta, Department of Psychology, Banaras Hindu University, Varanasi.

2. Kamaluddin Sheikh. **Behavioural analysis and treatment of stage-fright in orthopaedically handicapped youth.** BHU. Dr S Kaushik, Reader, Department of Psychology, Mahila Mahavidyalaya, Banaras Hindu University, Varanasi.

3. Khanna, Shivakshy. **Life stress, anxiety and depression in working and non-working women: A study of moderators.** HP



4. Manju Devi. **Need patterns and self esteem of employed and unemployed women.** BHU. Dr (Mrs) Reeta Varma, Department of Psychology, Banaras Hindu University, Varanasi.

5. Mukhopadhyay, Pritha. **Level of anxiety in unexplained infertility: An inter disciplinary study.** Calcutta.

6. Sharma, Hari Shanker. **A view of mind.** IIT Delhi. Prof (Mrs) P Mathur, Department of Humanities and Social Sciences, Indian Institute of Technology, New Delhi and Dr Amulya Khurana, Department of Humanities and Social Sciences, Indian Institute of Technology, New Delhi.

7. Shukla, Mamta. **Development of cognitive style and locus of control as a function of child rearing practices.** Ravishankar. Dr JP Shukla, Department of Psychology, Ravishankar University, Raipur.

#### Sociology

1. Chalise, Suresh Chandra. **The rashtriya panchayat elite of Nepal: A sociological study of their social origin and value-orientation.** BHU. Prof S Tripathi, Head, Department of Sociology, Banaras Hindu University, Varanasi.

2. Gaur, Roomi. **Chhattisgarh ke swatantrata sangram mein Tyagmoorti Thakur Pyare Lal Singh ka yogdan.** Ghasidas. Dr R G Sharma.

3. Jalan, Raj. **Grameen vikas karyakram aur mahila sahbhagita:** Varanasi ke Sewanuri Block per adharit ek samaj vaigyanik adhyayan. BHU. Prof P D Kaushik.

4. Panna Lal. **A socio-demographic study of infant mortality and its relation with adoption of family welfare methods.** Bundelkhand. Dr N N Awasthi, M L V Medical College, Jhansi.

5. Ramachandra Murthy, Mocheria Sree. **Demographic and social factors influencing awareness about sex and reproduction among youth.** Venkateswara. Prof K Mahadevan, Department of Population Studies, Sri Venkateswara University College, Tirupati.

6. Singh, Jyoti. **Samajik gatisheelata ek samajshastriya adhyayan: Janpad Fatehpur ke grameen kshetron ke samband mein.** Bundelkhand. Dr Gargi, Principal, Arya Kanya Mahavidyalaya, Jhansi.

#### Social Anthropology

1. Gangadharam, V. **An anthropological study of fertility behaviour among the Chenchu.** Venkateswara.

#### Political Science

1. Awasthi, Poornima. **Mandal Siddhant: Prachin Bharat ke sandarbh mein.** Ravishankar. Prof R N Mitra, Raja Talab, Raipur.

2. Chalawadi, Mahagunndappa Huchhappa. **Caste politics of Bijapur District in Karnataka with particular reference to Badami Taluka 1971 onwards.** Karnatak. Dr N A Patil, Reader, Department of Political Science, Karnatak University, Dharwad.

3. Dubey, Kamla. **Pandit Jawaharlal Nehru ka vaicharik adhar evam nitiyon ka Bharat ke rajnaitik paddhiti per prabhav.** H S Gour. Dr G P Nema, Department of Political Science and Public Administration, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

4. Dubey, Pushpa. **Prachin Bharat mein kutnaitik sambandhon ka vikas.** Ravishankar. Dr R N P Singh, Department of Political Science, Govt Digvijay College, Rajnandgaon.

5. Ekwona, Sampson I. **The exercise of veto rights and the role of the UN Security Council: Trends of the two superpowers.** Nag-

pur. Dr G M Kulkarni, Formerly Principal, S B City College, Nagpur.

6. Gupta, Archana. **Raipur ke anusoochit jati evam anusoochit janjati mein rajnaitik jagrukta ka parimapan evam mulyankan.** Ravishankar. Dr Salabh Tiwari, Department of Political Science, Govt Girls College, Durg.

7. Gupta, Ramji Lal. **Lok kalyankari rajya aur Ramayan mein iski prasangikta: Ramacharit Manas ke vishesh sandarbh mein.** Jiwaji. Dr L D Gupta, Prof and Head, Department of Political Science, Post Graduate College, Shivpuri.

8. Jain, Usha. **Prachin Bharat mein Kautilya ke videshniti ke pariprekshya mein antrarajiya sambandh.** Devi Ahilya. Dr S S Bagga, 60, Vidya Nagar, Indore.

9. Miglani, Diwan Chand. **Socio-economic basis of rural power structure in Haryana: A study of Village Amupur in District Kanwal.** HP.

10. Nagender Rao, M. **District politics in AP: A case study of Nalgonda District.** Osmania.

11. Panwar, Dan Singh. **M P ke adivasi bahul kshetron mein panchyati raj: Visheshta Dhar Jile ke panchyaton ke prashasnik adhyayan ke sandarbh mein ek rajnaitik vishleshan.** Vikram. Dr M K Maheshwari, Department of Political Science, Vikram University, Ujjain.

12. Ravinder Kaur. **A study of Legislative leadership in Panjab with special reference to Congress Party from 1972-1985.** Punjabi. Dr Dalip Singh, Department of Political Science, Punjabi University, Patiala.

13. Singh, Archana. **Inter-state boundary disputes in India with particular reference to the period, 1976-1986.** BHU. Prof P D Kaushik, Head, Department of Political Science, Banaras Hindu University, Varanasi.

14. Sonvalkar, Anita. **Bharatiya swadhinta sangharsh mein Jawaharlal Nehru ke bhumika.** Vikram. Dr G K Sharma, Department of Political Science, Vikram University, Ujjain.

15. Tiwari, Ashwini Kumar. **Government and politics in Orissa: Study of a decade, 1961-1971.** Sambalpur. Dr A P Padhi, Prof, P G Department of Political Science, Sambalpur University, Jyoti Vihar, Burla.

16. Tripathi, Prayag Narayan. **Bharat Bangladesh antrarashtriya sambandhon mein ek adhyayan.** Bundelkhand. Dr Rajendra Kumar Porwal, Gandhi Mahavidyalaya, Orai.

17. Upadhyay, Mahesh. **Durg Nagarpalika Nigam: Prashasan aur rajniti.** Ravishankar. Dr R N Mitra, Rajatalab, Raipur.

18. Yadagiri, R. **Emergence of Telugu Desam Party and its support structure.** Osmania.

#### Economics

1. Baldev Singh. **Role of banking in rural development: A case study of State Bank of Patiala in two districts of Panjab.** Punjabi. Dr K K Puri, Department of Public Administration, Punjabi University, Patiala.

2. Bhaskara Rao, Akula Venkata Siva. **Growth and instability of foodgrains production in Andhra Pradesh.** Andhra.

3. Bhatt, Surendra Mohan. **Bharat mein 1951 se krisi karadhan ke bhumika.** BHU. Dr R P L Jain, Department of Economics, Banaras Hindu University, Varanasi.

4. Chaudhari, Manju. **Economic effect of nationalisation of coal**



industry: A case study of Bilaspur Division. Ghasidas. Dr B P Ambasht.

5. Gangwar, Sunita. *Dewas Jile mein vrhiht udyogon mein shram sambandh*. Vikram. Dr V K Parikh, Department of Economics, Vikram University, Ujjain.

6. Gautam, Sandhya. *Evaluation of Indian R and D in relation to import substitution strategy and related factors*. IIT Delhi. Prof (Mrs) P Mathur, Department of Humanities and Social Sciences, Indian Institute of Technology, New Delhi and Dr Ashok Jain, Director, National Institute of Science, Technology and Development Studies, Hillside Road, New Delhi.

7. Gupta, Ramavtar. *Problems of industrial entrepreneurship in Rajasthan: A case study of Alwar Industrial Complex*. Rajasthan. Prof R B Upadhyaya, Vice Chancellor, University of Ajmer, Ajmer.

8. Jain, Man Chand. *Gem and jewellery industry in India with special reference to Rajasthan*. Rajathan. Dr M D Agarwal, Jain Bhawan, Station Road, Kota.

9. Kapoor, Suneel. *The pattern of migration in the urbanisation of India*. BHU. Dr P K Chaubey, Reader, Department of Economics, Banaras Hindu University, Varanasi.

10. Meenakshi. *Participation of female labour in agriculture of Himachal Pradesh: An economic analysis*. HP.

11. Mukhopadhyay, Subir. *Inter-state differential of agricultural productivity with special reference to West Bengal*. Rabindra Bharati. Dr Raj Kumar Sen, Reader, Department of Economics, Rabindra Bharati University, Calcutta.

12. Paramjit Kaur. *Returns to investment on agricultural research and extension*. BHU.

13. Prasada Rao, Adury Gurni. *Demand for fertilizers in Andhra Pradesh: A zone wise analysis*. Andhra.

14. Ramakrishna Reddy, N. *Growth and instability in foodgrains production in four Southern States of India*. Osmania.

15. Saxena, Kamini. *Role of the wild land use in the economy of Bundelkhand*. Bundelkhand. Dr C P Saxena, B K College, Jhansi.

16. Seth, Ranjana. *Capital taxation in India*. BHU. Prof P K Bhargava, Department of Economics, Banaras Hindu University, Varanasi.

17. Shahi, Dharmendra Pratap. *A study of India's trade with Soviet Russia during 1970-85*. BHU. Dr M P Singh, Department of Economics, Banaras Hindu University, Varanasi.

18. Singh, Raj Bahadur. *Role of financial institutions in agricultural development: A study of Banda District, U P*. Bundelkhand. Dr V S Chauhan, Pt J L N College, Banda.

19. Singh, Shiv Kumar. *Trade promotion of the least developed countries: The role of UNCTAD*. BHU. Dr M P Singh, Department of Economics, Banaras Hindu University, Varanasi.

20. Upadhyaya, Rakesh. *Restructing integrated rural development in the context of Indian situation*. Rajasthan. Dr R S Kulshrestha, Department of Economic Administration and Financial Management, University of Rajasthan, Jaipur.

#### Law

1. Mishra, Ghanshyam Das. *Investigatory power of the administrative authorities: Role of the Central Vigilance Commission*. BHU. Dr M N Chaturvedi, Prof, Department of Law, Banaras

Hindu University, Varanasi.

#### Public Administration

1. Gammoh, Marwan Mofadi Yocob. *Economic development planning and its management in Jordan, 1973-1990*. Nagpur. Dr S L Dave, Department of Political Science, Nagpur University, Nagpur.

2. Gurcharan Singh. *Motivation and work behaviour in industrial organisations: A case study*. Punjabi. Dr Pardeep Sahni, Department of Public Administration, Punjabi University, Patiala.

3. Ravinder Rao, Ch. *Management of universities in India: Some problems and issues*. Osmania.

#### Military Studies

1. Chauhan, S B S. *A study of nuclear development and its implications for national security*. Bundelkhand. Dr G S Niranjana, D V College, Orai.

2. Dwivedi, Ashok Kumar. *Military personnel: Their personality, value profiles and rated morale*. Ravishankar. Prof R D Helode, Head, Department of Psychology, Ravishankar University, Raipur.

3. Nigam, R K. *Policy dimension of chemical and biological warfare with particular reference to India*. Bundelkhand. Dr G S Niranjana, D V College, Orai.

4. Saxena, A K. *A critical appraisal of Indian defence policy during Nehru era*. Bundelkhand. Dr Arvind Kumar Sharma, D V College, Orai.

#### Education

1. Adhikari, Hira La. *Comparative study of anthropometric psychological characteristics of high and low fit soccer players*. Jiwaji. Dr A Sidhu, Lakshmi Bai National College of Physical Education, Gwalior.

2. Agrawal, Reeta. *A study of factors influencing political socialization among school students*. BHU. Dr Uma Varshney, Reader, Department of Education, Banaras Hindu University, Varanasi.

3. Bhatt, Bharti B. *A study of frustration among women teachers in relation to certain variables*. Patel. Dr A V Patel, Reader, Department of Education, Sardar Patel University, Vallabh Vidyanagar.

4. Bhattacharya, Sudip. *Open University: Its scope and possibilities, an analysis of Tagore's educational thoughts in evolving a conceptual framework of open university in India*. Visva-Bharati. Dr D P Mukherjee, Department of Education, Vinaya-Bhavana, Visva-Bharati, Santiniketan.

5. Choudhary, Arun Kumar. *Effectiveness of training and visit extension system in Bihar*. RAU.

6. Das, Bishnu Charan. *Effectiveness of self-learning material for the orientation of university and college teachers*. BHU. Dr H C S Rathore, Department of Education, Banaras Hindu University, Varanasi.

7. Das, Varsha. *Potentials of traditional performing arts for inculcating scientific temper in masses*. Osmania.

8. Jha, R P. *Bundelkhand Vishwavidyalaya mein khilari chhatra/chhatrayon evam samanya chhatra/chhatrayon ke vyaktitva sambandhi lakshanon ka tulnatmak adhyayan*. Bundelkhand. Dr R P Pandey, B K College, Jhansi.



9. Lohkarey, Sunanda Shrikrishna. **Jeewan mulyanchya sandarbhata Samarth Ramdas Swamonchya Dasbhodhache shaikshik tatvagyan.** Nagpur. Dr G S Parasher, Department of Education, Nagpur University, Nagpur.

10. Mehrotra, Prabha. **Adjustment patterns, career aspirations and academic achievements of advantaged and disadvantaged high school students of Varanasi City.** BHU. Dr Saheb Singh, Department of Education, Banaras Hindu University, Varanasi.

11. Mishra, Kamallesh Kumar. **Comparison of the effectiveness of Schutz awareness and yogic training model for postering awareness among mentally retarded children.** BHU. Dr S S Srivastava, Reader, Department of Education, Banaras Hindu University, Varanasi.

12. Nishal Parveen. **Unisvin sadi ke Muslim shikshavidon ka adhunik Bhartiya shiksha mein yogdan: Ek itihastik adhyayan.** BHU. Dr Harikesh Singh, Reader, Department of Education, Banaras Hindu University, Varanasi.

13. Patel, Dilipbhai Umedbhai. **An investigation into the effect of low readability material and prescribed material provided to the students of std IX in social studies in English medium schools of Gujarat State.** Patel. Dr C B Petyal, Principal, N H Patel College of Education, Anand.

14. Rai, Vijay Kumar. **A study of some cognitive and non-cognitive factors affecting understanding of concepts in Physics.** BHU. Dr S B Bhattacharya, Reader, Department of Education, Banaras Hindu University, Varanasi.

15. Ram, Triloki Nath. **Personality and general clinical characteristics of pre and post operative cancer patients of different educational levels.** BHU. Dr (Mrs) Kamala Rai, Reader, Department of Education, Banaras Hindu University, Varanasi.

16. Rathore, Mridula. **Bundelkhand kshetra ke kishore chhatron mein purvagrahon ka adhyayan.** Bundelkhand. Dr R L Vishvakarma, D V College, Orai.

17. Sharma, Gopal Krishna. **Validation of Bloom's taxonomy of educational objectives in cognitive domain as applied to a professional Physical Education course.** Jiwaji. Dr A Sidhu, Lakshmi Bai National College of Physical Education, Gwalior.

18. Srivastava, Sandhya. **Teaching effectiveness of secondary school teachers in relation to some environmental catalysts.** BHU. Dr Geeta Rai, Department of Education, Mahila Mahavidyalaya, Banaras Hindu University, Varanasi.

19. Swamy, Sushma Krishnakant. **A critical study of women's education in Vidarbha from 1947 to 1987.** Nagpur. Dr G S

Parasher, Department of Education, Nagpur University, Nagpur.

20. Verma, J L. **Adhunik parivesh mein Mahamana Madan Mohan Malviya ke shaikshik vicharon ke alochnatmak adhyayan.** Bundelkhand. Dr Y K Gupta, Hindu College, Moradabad.

#### Commerce

1. Gupta, Shailendra Kumar. **Working capital management of electronics: TV manufacturing companies in India.** Rajasthan. Dr K K Chawla, P G Department of Commerce, S D College, Sri Ganganagar.

2. Soni, Mohan Lal. **Madhya Pradesh ke Chambal Sambhag mein krishi vitti ka vishleshtnatmak adhyayan: A case study.** Jiwaji. Dr O P Shrivastava, Department of Commerce, Govt College, Datia.

3. Tiwari, Manoj Kumar. **M P ke audyogik lok nigamon ke prabandh karya pranali evam uplabdhiyon ka vivechnatmak adhyayan.** Vikram. Dr R S Patel, Principal, Madhav College, Ujjain.

#### Home Science

1. Kotwal, Deepali Sanjay. **Nutritional aspects of Mahua.** Nagpur. Dr (Mrs) S A Vali, Department of Home Science, Nagpur University, Nagpur.

#### Management

1. Baldua, Seema. **Performance appraisal of banks: A case study of State Bank Group.** Rajasthan. Dr V K Dangayach, Department of Accountancy and Business Statistics, University of Rajasthan, Jaipur.

2. Bansal, Mahabir Prasad. **Human resource development in public enterprises.** Rajasthan. Dr R B Upadhyaya, Vice Chancellor, Ajmer University, Ajmer.

3. Goyal, K C. **Environmental sanitation and social hygiene in an emerging industrial belt.** Rajasthan. Dr R B Upadhyaya, B-38, Prabhu Marg, Tilak Nagar, Jaipur.

4. Pandey, Ram Kripal. **Manpower planning in nationalised Indian banking sector: A case study.** BHU. Prof A K Shah, Department of Management Studies, Banaras Hindu University, Varanasi.

5. Prasad, A G. **Disinvestment policy of APIDC with reference to joint venture units.** Osmania.

6. Sharma, Arun Kumar. **Measuring the impact of delegation of authority on organisational effectiveness in selected private and public enterprises in Rajasthan.** Rajasthan. Dr K K Sharma, Department of Business Administration, University of Rajasthan, Jaipur.

7. Venkata Rao, Guddala. **A study on the performance of Indian Airlines.** Andhra.

## EDUCATION NEWS INDEX

A list of select articles and editorials on Education from newspapers received  
in the AIU Library during June 1991

#### EDUCATIONAL SOCIOLOGY

AFTER SSC, what (Editorial). *Deccan Chronicle* 26.6.91.

Bhatia, Ravi P. How urban students are made brilliant. *The Hindustan Times* 11.6.91.

Mitra, Ashok. 'Students must be encouraged to articulate what their felt needs are' *The Telegraph* 12.6.91.

#### EDUCATIONAL POLICY & PLANNING

Khullar, K K. Priorities in education. *Patriot* 4.6.91.



## EDUCATIONAL ADMINISTRATION

Amrik Singh. DUTA : Intimidation as a weapon. *The Hindustan Times* 26.6.91.

Gupta, G S Balarama. What ails the Vice-Chancellors. *The Hindu* 18.6.91.

Kar, U C. UGC guidelines-a dream or a reality? *The Assam Tribune* 30.5.91.

## CURRICULUM

Ravindran Nair, G. Environmental education : The key factor. *The Assam Tribune* 25.6.91.

## LANGUAGE & LANGUAGE POLICY

Das Gupta, Chidananda. 'Ma phaleshu kadachanae'. *The Telegraph* 21.6.91.

Kalita, Amarendra. English and our practical life. *The Assam Tribune* 13.6.91.

Sanyal, Sunanda. School English-I : Revolutionizing the syllabus. *The Statesman* 20.6.91.

——— School English-II : The search for perfection. *The Statesman* 21.6.91.

——— School English-III : Good seed in bad ground. *The Statesman* 22.6.91.

Sen, Ashoke. Slaughter of the innocents. *The Telegraph* 21.6.91.

## VOCATIONAL EDUCATION

ENGINEERING MANPOWER (Editorial). *Deccan Herald* 31.5.91.

Mathur, P B. Agro-education comes into vogue. *Patriot* 26.6.91.

Soni, Kiran. Importance of vocational studies. *Indian Express* 21.6.91.

Velayudham, T K. Lack of emphasis on core subject. *The Hindu* 25.6.91.

## DISTANCE EDUCATION

Peppin, S. Closed doors of open universities. *The Hindustan Times* 24.6.91.

## TEACHERS & TEACHING

Das, Anar. Education and training. *The Assam Tribune* 22.6.91.

Sethi, Suresh. Teachers or salesmen? *The Tribune* 29.6.91.

Venkata Reddy, K. Relevance of academic staff colleges. *The Hindu* 18.6.91.

## EDUCATIONAL EVALUATION

Jain, P L. Exam muddle : Quest for correctives. *The Tribune* 30.6.91.

Nageswara Rao, E. Why so many entrance tests? *The Hindu* 11.6.91.

TUGHLAQs OF P. U. (Editorial). *The Tribune* 28.6.91.

## ECONOMICS OF EDUCATION

Amrik Singh. Example to emulate. *Deccan Herald* 20.6.91.

Figg, Carlton. Teaching shops. *The Pioneer* 10.6.91.

## LIBRARIES & BOOKS

Ahana Lakshmi, D K. Teach them the value of books. *The Hindu* 25.6.91.

Bhuyan, Bishnu. How are our academic libraries. *The Assam Tribune* 16.6.91.

Mohinder Singh. Battle of books. *Patriot* 3.6.91.

OF BOOKS and pulp (Editorial). *The Statesman* 16.6.91

## ADULT EDUCATION

Chandna, R C. Bright spots, blight spots. *The Tribune* 20.6.91.

Deka, Ranjit Narayan. Total literacy. *The Assam Tribune* 10.6.91.

Dutta Gupta, Reeta. Illusory progress. *The Economic Times* 10.6.91.

ERNAKULAM TO burdwan (Editorial). *The Hindustan Times* 12.6.91.

Mankekar, Kamala. MP district tries to achieve 'total literacy'. *Deccan Chronicle* 19.6.91.

Patnaik, Jagannath. Educating Sudergarh. *The Tribune* 19.6.91.

Rai, Usha. Literacy : No resting on laurels now. *The Times of India* 15.6.91.

Surya, Vasantha. Literacy campaign-a fresh start. *The Hindu* 28.6.91.

## COMPARATIVE EDUCATION & COUNTRY STUDIES

Rees, Mervyn. Learning new lessons in race laws. *The Hindu* 23.6.91.

## INSTITUTIONAL PROFILE

DELHI PUBLIC school : RK Puram (Editorial). *The Statesman* 13.6.91.

MORE ELBOW room for the LSE (Editorial). *The Hindustan Times* 12.6.91.

Narasimhan, Sakuntala. Haven, school and home. *Indian Express* 2.6.91.

SERVICE BEFORE self (Editorial). *The Statesman* 13.6.91.

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Publishers are welcome to submit their latest publications, other than textbooks, for review in the *University News*. Two copies are required to be submitted; one is sent out to the reviewer while the other is retained in the office for reference and record. All reviews published in *University News* are signed.



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- b. A minimum of twenty years of experience in Teaching/Research/Extension in Home Science, out of which atleast five years should be as Professor or equivalent rank.
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- a. A bachelor's degree in Agriculture/Veterinary Science/Home Science.
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Date: July, 1991

Dr. B. P. Sabale  
REGISTRAR



- c. A minimum of twenty years of experience in Teaching/Research/Extension in Agriculture out of which atleast seven years should be as Professor/Senior Scientist/Associate Director or equivalent rank.

- d. Significant professional achievements in his field of specialisation/activity.

**Desirable:**

- a. Experience as part of duties in conducting basic/applied research of high quality as evidenced by published work/technologies developed.
- b. Knowledge and experience of planning, organising and administering research programmes.

**6. DIRECTOR OF EXTENSION**

**Essential:**

- a. A bachelor's degree in Agriculture.
- b. Ph.D. or equivalent degree in Agril. Extension or any discipline of Agriculture.
- c. A minimum of twenty years of experience in Teaching/Research/Extension in Agriculture, out of which atleast seven years should be as Professor/Senior Scientist/Associate Director of Research or equivalent rank.
- d. Significant professional achievements in his field of specialisation/activity.

**Desirable:**

- a. Knowledge and experience of planning, organising and administering extension programmes.
- b. Must have passed SSC or its equivalent examination with Telugu as one of the subjects or should have studied SSC through the medium of Telugu.

**NOTE:**

- i. The experience prescribed should be reckoned as on the last date fixed for the receipt of applications in the case of all the posts notified.
- ii. The term of appointment for the above posts shall be Five years or/on attaining the age of 60 years whichever is earlier.
- iii. The inservice Teachers of APAU may send applications direct to the Registrar.
- iv. Applicants, other than those in the service of A.P.Agricultural University should send the applications through their employers so as to reach the University on or before the last date.
- v. The candidates desirous to apply for more than one post should submit separate application for each post.

Application forms can be had from the Registrar, A.P.Agricultural University, Administrative Office, Rajendranagar, Hyderabad 500030 on remitting Rs. 10/- in person or through a crossed Demand Draft drawn from any Nationalised Bank in favour of the **Comptroller, A.P.Agricultural University,**

**Rajendranagar drawn on State Bank of Hyderabad, Rajendranagar Branch.** For obtaining it by post, a self addressed and stamped Rs. 5/- cover of the size of 35cm x 15cm should also be sent with a requisition for application form. **No M.O/I.P.O. will be entertained.** The covers containing the filled in applications must be superscribed "Application for Recruitment to the post of \_\_\_\_\_" and addressed to Registrar, A.P.Agricultural University, Rajendranagar, Hyderabad - 500030. The applications should reach the University on or before **8-8-1991.**

Applications received after the last date prescribed will not be considered.

Applicants, when called should appear before the Selection Committee for interview at their own cost.

**Prof.S.M.Siddiqui**  
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**Shahdara, Delhi- 110 095**

**Advt. No.MC/ESTAB./2/11/91-IV**

Ref:- Advt No.MC/Estab./2/11/91-III appeared in "University News" dated

24.06.1991.

The upper age limit for Sr. Resident/Sr. Demonstrator has been raised to 33 years. The last date for applying to any of the posts in the Advt. is extended to 20.07.1991 upto 4.00p.m.

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## PANJAB UNIVERSITY

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Guru Ravi Dass Chair-1,

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VVBIS & I.S., Hoshiarpur: Sanskrit-1.

Application forms alongwith 'Detailed Instructions for Candidates' containing qualifications (essential and desirable), specializations of various posts and other details, can be obtained from the Cashier, Panjab University, Chandigarh, personally on payment of Rs. 15/- (inclusive of fee) or by making a written request to the Deputy Registrar (Estt.), Panjab University, Chandigarh, accompanied by a self-addressed stamped (worth Rs. 6.00) envelope of 23 x 10 cms. and Bank Draft of Rs. 15/- drawn in favour of the Registrar, Panjab University, Chandigarh.

Those who wish to have detailed instructions for candidates may obtain the same free

## INDIAN COUNCIL OF MEDICAL RESEARCH

(Advt. No. 5/91/Hqs. office)

Applications are invited upto 26th July, 1991 for two posts of Research Officers (Medical), one reserved for SC and one unreserved, in the scale of pay of Rs. 2200-75-2800-EB-100-4000 plus usual allowances admissible to Central Govt. employees stationed at New Delhi.

#### QUALIFICATION & EXPERIENCE

**Essential:** MBBS with at least 3 years of teaching and/or research experience in the area of Non-communicable diseases.

**Desirable:** MD in General Medicine/Preventive and Social Medicine or Pathology.

**Job Requirements:** To coordinate the research activities in all areas of non-communicable diseases including Occupational Health.

**Age:** Below 45 years. SC/ST candidates allowed relaxation in accordance with Govt. of India rules.

Benefits of pension admissible, Private practice is not allowed. Non-practising allowance as per rules of the Council is admissible to medical graduates only. Candidates called for personal discussion for the post will be paid second class rail fare by the shortest route on production of documents.

Applications from employees working in Central/State Govt./Public Sector Undertaking and Govt. funded research agencies must be forwarded through proper channel.

Application forms and other details can be obtained from the office of the Director General, Indian Council of Medical Research, Ansari Nagar, New Delhi - 110 029. Application duly completed should be sent to the Director General, Indian Council of Medical Research alongwith a crossed Indian Postal Order for Rs. 8/- payable to the DG, ICMR, New Delhi. SC/ST candidates are exempted from this payment.

Incomplete and late applications will not be entertained.



of charge from the Deputy Registrar (Estt.) by sending a self-addressed stamped (Rs. 2/-) envelope.

## OSMANIA UNIVERSITY

HYDERABAD-500 007.(A.P.).

ADVERTISEMENT NO.3/91

Dated: 4th July 1991

Applications in the prescribed form together with the registration fee of Rs.10/- payable through I.P.O./Demand Draft (M.O. is not acceptable) drawn in favour of the Registrar, Osmania University, Hyderabad - 500007 are invited for the following posts in the Regional Centre for Urban & Environmental Studies, O.U., so as to reach the undersigned in person or by post on or before 29th July, 1991:

1. PROFESSOR .. One
2. READER (\*) .. One (\*) Consequential if any

### QUALIFICATIONS:

#### Professor:

- a) A Doctorate Degree in Public Administration
- b) An eminent scholar with published work of high quality actively engaged in research. Ten years of experience in teaching and/or research.

Experience of guiding research at Doctoral level.

#### Desirable:

Experience of Training and Research in Urban administration and development

#### Reader:

- i) Good Academic record i.e. (B+) or (not less than 55% of marks) in P.G. Degree with doctoral degree in Public Administration or equivalent published work. Evidence of being actively engaged in

(a) Research or

(b) Innovation of teaching methods or

(c) Production of teaching material;

- ii) About five years experience of teaching and/or research provided that at least three years are as Lecturer or in an equivalent position. This condition may be relaxed in the case of candidates with outstanding research work.

#### Desirable:

Experience in Training and Research in

urban administration and development.

### SCALE OF PAY:

Professor - Rs.4500-150-5700-200-7300

Reader - Rs.3700-125-4950-150-5700

AGE: As on the last date of receipt of applications.

Professor - Not above 50 years

Reader - Not above 40 years

NO ORIGINAL CERTIFICATE SHOULD BE ATTACHED TO THE APPLICATION FORM

Application forms can be had from the Director, Dept. of University Press & Publications, Osmania University, Hyderabad - 500007 on payment of Rs.4.50 in person or by IPO/Demand Draft together with the required postal charges for ordinary/registered post made payable to the Director and by sending a self-addressed envelope of  $14\frac{1}{2} \times 26\frac{1}{2}$  Cms.

REGISTRAR

## ASSAM AGRICULTURAL UNIVERSITY

JORHAT-785013

ADVERTISEMENT NO. 3/1991

Applications are invited in prescribed application forms for the following posts in the Disciplines as mentioned below :

1. Post in the rank of Professor (Pay Scale

## INSTITUTE OF SOCIAL SCIENCES AGRA UNIVERSITY, AGRA ADMISSION NOTICE 1991

Applications are invited for admission to the following regular courses in the Institute for 1991-92. The last date of receipt of application is indicated against each courses :

- |  |               |
|--|---------------|
| 1. Master of Social Work (M.S.W.)                | Aug. 20, 1991 |
| 2. Master of Statistics(M.Stat.)                 | Aug.15, 1991  |
| 3. Master of Sociology, Alternative Course (M.A) | Aug. 15,1991  |
| 4. Master of Philosophy, (M.Phil.Statistics)     | Aug. 25, 199  |
| 5. Master of Philosophy, (M.Phil., Sociology)    | Aug.25, 1991  |
| 6. Diploma In Computer Application(D.C.A.)       | Aug. 25, 1991 |

Application forms and prospectus can be obtained from the Institute's office on payment of Rs. 30/- (Rs. 35/- if desired by post). Payment must be made either in cash at the counter or by a Crossed Demand Draft payable to the Director, Institute of Social Sciences, Agra University, Agra. Applicants should give their complete postal address in Block capitals. Those candidates whose results have not been declared, must seek "PROVISIONAL ADMISSION" if they are sure to obtain qualifying marks within the prescribed time. Admissions are open to candidates having a Bachelor's degree of 3 years duration or a Bachelor's degree of 2 years duration with a Bridge course of one year or a Bachelor's degree with a Master's degree, or a Bachelor's degree with 3 years degree in Law for different courses. The details of which can be obtained from the prospectus.

OLD STUDENTS MAY PLEASE SEND THEIR ADDRESSES TO US.

Rajeshwar Prasad  
DIRECTOR

Rs. 4500-7300). Discipline: Acquaculture (Fisheries).

2. Post in the rank of Associate Professor (Pay Scale Rs. 3700- 5700). Discipline : Animal Nutrition (NARP-II).

3. Posts in the rank of Assistant Professor (Pay Scale Rs. 2200-4000). Discipline : Plant Breeding and Genetics, Soil Science, Entomology, Biochemistry, Crop Physiology, Agronomy, Extension Education(Agri.).

Fishery Biology, Hydro Biology(Fisheries), Extension Education(Fisheries),

Vety. Medicine, Vety, Surgery, Vety. Pharmacology, Vety. Pathology, Vety. Physiology, Vety. Anatomy, Animal Production & Management, Animal Nutrition.

All posts carry allowances as admissible under the University rules. Prescribed application forms and other details regarding qualifications, experience etc. required for the posts may be had by sending self addressed Rs. 3/- stamped envelope of the size of 23 x 10 c.m. from the undersigned. The last date of receiving applications complete in all respects is 31st July, 1991. The applications of employed candidates must come through proper channel within the last date. Applications which are incomplete, not in prescribed forms and received after expiry of the last date shall not be entertained.

REGISTRAR



# University News

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Value in Education  
Or  
Education for Values ?



Powers and Functions of a  
Vice-Chancellor



Towards Total Literacy By 1995



Nehru Fellowships



Area Study Programmes



University Autonomy and Accountability



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# NATIONAL INSTITUTE OF EDUCATIONAL PLANNING & ADMINISTRATION

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Job Specification: The Incumbent should be able to

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2. Monitor data entry as and when the data are received.
3. Organise and document Project Advisory Committee Meetings.
4. Draft report of the Project.

### Qualifications:

#### Essential

- (i) Should have consistently good academic record with first or high second class (B + ) Master's degree in Education, Social Sciences, Sciences or disciplines allied to Educational Planning and Administration of an Indian University OR equivalent degree of a foreign university.
- (ii) Either a doctorate degree of an Indian or foreign University OR published research work of a high standard OR outstanding academic contribution in Education, preferably in Educational Technology or Evaluation.
- (iii) At least 5 years experience of teaching/conducting and/ or guiding research in Higher Education; or At least 5 years administrative/professional experience in Government in Higher Education.

#### Desirable:

Experience in handling evaluation/research projects.

Age: below 45 years

PROJECTS : 1) USE OF SAMPLE SURVEY TECHNIQUES IN  
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Duration : 6 months

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#### Desirable:

- (1) Familiarity with Quantitative Techniques and their empirical applications to Socio-economics problems.
- (2) Ph.D/M.Phil degree preferably based on use of Quantitative Techniques in dissertation.

Age: Below 30 years.

The application on plain paper completed in all respect alongwith photocopies of testimonials/experience certificate should reach the Registrar, National Institute of Educational Planning and Administration, 17-B, Sri Aurobindo Marg, New Delhi 110016 latest by August 2, 1991.

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# UNIVERSITY NEWS

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JULY 22

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## IN THIS ISSUE

Powers and Functions of a Vice-Chancellor	6
University Autonomy and Accountability	9
Towards Total Literacy by 1995	11
The ACU in Conference	13

### Convocation

Gandhigram Rural Institute, Gandhigram	14
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### Campus News

Refresher Course in Economics	17
INCRAF - 1993	17
Nehru Fellowships	18
IGNOU Introduces Spot Admission	18

### Agriculture

Workshop on Transfer of Technology	18
Need Based Agricultural Research	19
KKV Convocation	19

### News from UGC

Central Varsities Linkages with SUs	20
Area Study Programmes	20

### News from Abroad

TWAS History of Science Prize	20
----------------------------------	----

Theses of the Month	25
Classified Advertisements	C-3

Opinions expressed in the articles  
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the Association.

Editor:  
SUTINDER SINGH

# Value in Education Or Education for Values?

Shivendra K. Verma\*

An attempt has been made in this paper to examine the value-centred aims of education by looking for answers to the following questions: What do we mean by 'value' in this context? Is it something that we discover in ourselves or in objects and nature around us? Is it something that we experience? Is it assigned and created? Is it context-bound or global? Our answers to these questions will probably depend on our present perception of the nexus between man and man, between man and society, between man and the universe, between man's 'self' and the 'supraself'. What we are trying to understand here is the philosophy underlying the notion 'value in education'. We are also trying to find out if 'values' can and should be taught in a formal classroom setting.

'Value in education' is a multidimensional concept and is related to every aspect of education. It has a force that can unite learners, teachers, and also the community around them into one creative whole. It plays a vital role in the overall growth of learners, teachers, and their communities. 'It' here does not refer to a product but to a process — a process of 'becoming', of 'growing'. The concept of growing includes physical, material, intellectual, emotional, socio-cultural, and spiritual development. In order to activate this process, learners, teachers, and the community have to interact in an atmosphere of creativity, revitalising one another. Creative interaction is related on the one hand to socio-cultural networks and on the other to supramundane forces. "Educational values are largely determined by the social goals and objectives which a society cherishes, and since they are not the same for every society and for all times to come, the value must undergo change with the changing needs of a society. Our own society which is undergoing rapid transformation under the impact of science and technology has to reconstruct its educational values. It should be the function of the university to preserve all that is good in our tradition, and at the same time become an instrument for change and modernization ..... Technology will have to be adapted to suit the genius and culture of our people. In this way, it may be possible for us to modernize our society and at the same time provide spiritual freedom which has sustained and nourished our society for centuries". (Shrimali, 1971 Preface V & VI)

It is unfortunate that higher education has thus far been perceived as a process of pumping knowledge from a full vessel floating up in the air into empty vessels lying below. This 'Container-centred' philosophy of education has raised problems. Firstly, knowledge does not mean just information derived from books. It can't be just someone else's story. It is not a point or product — total information gathered or received — but a process, a process of growth, of maturation triggered by a network of interactions 'between a particular, biologically-given, complex system — the human mind — and the physical and social world'. Secondly, teaching is not a unidirectional activity; it is a bidirectional, interactional activity. Thirdly, the

\*Director, Central Institute of English & Foreign Languages,  
Hyderabad - 500 007.



learners are never passive recipients of 'ready-to-use' packages of knowledge. They are alive, active participants in teaching-learning activities. A child's performance may give us the impression that he is reproducing 'information, but, in fact, what looks like reproduction is recreation, for a child's performance is like that of an artist, of a creative photographer, who has his own built-in 'camera', 'lens' and 'filter'. Children recreate the reality they perceive rather than passively 'receive' or 'reflect' it. One of the most remarkable properties of 'the human species is its repeatedly demonstrated capacity for transcending what is merely given, what is purely determined. (Coutinho, 1972, p 9 in Freire; *Cultural Action for Freedom*). "Men's capacity to articulate a future tense — in itself a metaphysical and logical scandal — his ability and need to 'dream forward', to hope, make him unique" (Steiner, 1972, p 69). The purpose of education is to help human beings draw out their built-in generative power, experience the joy of adventure and discovery, and fortify whatever creative impulse they may possess. Good education, according to Gandhi, is "that which draws out and stimulates the spiritual, intellectual and physical faculties of children". (Gandhi, 1937, *Harijan*, September 1). "The highest mission of education", Tagore wrote "is to help us realize the inner principle of unity of all knowledge and all the activities of our social and spiritual being". (Tagore, 1962, p 199). The child, Aurobindo believed, must grow freely as an organic person. Every child is a self-developing being, and the role of both parent and educator is to advance self-development. The child has within himself everything that allows a true education, and particularly a ceaseless activity, incessantly revived, in which he is totally engrossed, the activity of a growing being who is continuously developing and to whom, for that very reason, our help may be useful, but our direction is not necessary". (Roger Cousinet, 1950, pp 20-21).

This creative approach is entirely different from the view of the child as a mass of plastic substance which the teacher has to press into a desired shape. According to Sri Aurobindo "the first principle of teaching is that nothing can be taught. The teacher is not an instructor or task-master, he is a helper and a guide. His business is to suggest and not to impose.... The idea of hammering the child into the shape desired by the parent or teacher is a barbarous and ignorant superstition". (Sri Aurobindo, 1960, pp 15-16).

The teacher has more than one role to play. He has to play the role of a facilitator, of a leader of a cooperative enterprise in which development occurs through reciprocal give-and-take, the teacher taking but not being afraid also to 'give'. He is expected to arouse enthusiasm and be a source of inspiration to his pupils. If he is not enthusiastic about his work, if he does not

have a set of values, if he is not a communicator of love, knowledge, power, and beauty, he would neither be able to put new life and energy into those who follow him nor to approve honest endeavour, and cheer those who find their burdens heavy. According to Tagore "..... only he can teach who can love. The greatest teachers of men have been lovers of men. The real teaching is a gift; it is a sacrifice; it is not a manufactured article of routine work; and because it is a living thing, it is the fulfilment of knowledge for the teacher himself" (Tagore: 1924, p 14).

Teachers must try to understand their pupils — their needs, their interests, their abilities, their wishes, their aptitudes, their problems. One remarkable advantage of such an attempt at understanding would be that it might make the pupils feel for the first time that there are friends around them, not a group of spies or inquisitors who are trying to catch them out. Children, young and old, need both security and liberty. A teacher must have enough sense to know when to interfere gently, otherwise there is no security. He must also know when to leave the child alone, otherwise there is no liberty. Freedom is desirable if the growth is to be neither stunted nor distorted. Children must realize that the teacher is 'on their side'. They should not be left baffled like hungry cats in a puzzle box. "All urge of rivalry, all struggle for precedence and domination should disappear giving place to a will for harmonious organisation, for clear-sighted and effective collaboration" (The Mother, 1960, p 129). This can be achieved by those teachers who have a fairly deep understanding of our ancient values and know how to use this knowledge to get the best out of modern science and technology.

Nature or *svabhav* (i.e. genetically-determined principles) and Nurture or *samskar* (i.e. socio-culturally generated experience) together help children 'grow' on the basis of their 'abhyas' and 'sadhana' in an atmosphere which may be labelled 'satsang'.

For this atmosphere to be really meaningful for teachers and learners, they must be inspired to move from the level of culture-bound local values to global values designed to create a world in which, according to Bertrand Russell, 'the creative spirit is alive, in which life is an adventure full of joy and hope, based rather upon the impulse to construct than upon the desire to retain what we possess or to seize what is possessed by others. It must be a world in which affection has free play, in which love is purged of the instinct for domination, in which cruelty and envy have been dispelled by happiness and the unfettered development of all the



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instincts that build up life and fill it with mental delights'. "Schools and colleges are not something apart from the social order to which they belong. They are that order trying to prepare its youths for participation in its own activities. And a society can only teach the hopes, the knowledge, the values, the beliefs it has". (Quoted by F.R. Leavis in his book *Education and the University* (1948).

People all over the world have begun to feel that education generating scientific, technological, and material progress alone is not enough. There is something beyond this which we must achieve — this 'something' must help us transcend the barriers of caste, creed, religion, and territory and live like members of one great community in an atmosphere of love and peace. We have to find some way of preserving the essential life-generating properties of our spiritual heritage and at the same time making use of the scientific spirit of western civilization. Material, physical, and spiritual values together can help us process the cycle of karma, artha, dharma, and moksha effectively. Even in the midst of plenty, people in affluent societies have begun to feel that there is a gaping hole in their life which cannot be covered with ordinary plaster. According to Billy Graham 'many thoughtful Americans are disturbed because as a nation we seem bereft of a sense of purpose. We have the mood and stance of a people who have 'arrived' and have nowhere else to go.....We have tried to fill ourselves with science and education, with better living and pleasure, with the many other things we thought we wanted, but we are still empty and bored.... We are confined by the prejudice, hatred and lust that are within us. We seem to be caught helpless in quicksand: We want out of our human dilemma but are powerless. The American genius has enabled us to change virtually everything but ourselves.... It is absolutely impossible to change society and reverse the moral trend unless we ourselves are changed from the inside out".

Krishnamurti was fully aware of this 'sickness' when he said that "education is not merely acquiring knowledge, gathering and correlating facts; it is to see the significance of life as a whole... The function of education is to create human beings who are integrated and therefore intelligent". (1956,p 14). Dewey too has said that "to possess all the world of knowledge and lose one's self is as awful a fate in education as in religion" (1902,p 9) "Education to be complete" says the Mother, "must have five principal aspects relating to the five principal activities of the human being: the physical, the vital, the mental, the psychic and the spiritual". (1960, p 12). "The end and aim of all education, all training," according to Vivekananda, "should be man-making.

The end and aim of all training is to make the man good". (Quoted by Avinash Lingam, 1983, p 20). For the full development of man, we need to have a pattern of education which combines Gandhi's *karm-yoga*, Tagore's *anand-yoga*, and Aurobindo's *Purna-yoga* into one dynamic system.

The question is: how do we build these values into our system of education? It cannot and should not be done by tinkering with the components of the system here and there. It is not enough to list courses and topics like Philosophy and Values, Management and Values Literature and Values, Economics & Values and so on, for education — if it is true education — is/should be a manifestation of values. Children internalize these values not by listening to learned discourses on the value of values but as a result of their encounter with the forces around them: parents, teachers, community, and materials. The time has come when we must overhaul and recharge the entire system — make it sensitive to our new thinking, to our new vision of the expanding universe around us. One possible way of doing it is to introduce 'value system' into the entire complex : men (teachers, learners and members of the community), material (printed, audio and video), and methodology at every level. This can be done by setting apart half an hour every morning or evening for readings from a variety of texts in a variety of languages : religious, philosophical, scientific, biographical (including stories of adventures and achievements). This reading should be followed by a free and frank discussion in which teachers and students are given full freedom to express their views. Slowly but surely they may begin to perceive a 'profound unity' underlying diversities apparent among languages, cultures, races and religions at the local, national, and international levels. This will mean making teachers and learners together wrestle with problems and relate what is coded in books to life with a capital L. Whitehead has gone to the extent of saying that "there is only one subject matter for education, and that is Life in all its manifestations. Instead of this single unity, we offer children — Algebra, from which nothing follows; Geometry, from which nothing follows; Science, from which nothing follows; History, from which nothing follows; a couple of languages, never mastered; and lastly most dreary of all, Literature, represented by plays of Shakespeare, with philological notes and short analyses of plot and character to be in substance committed to memory. Can such a list be said to represent Life, as it is known in the midst of the living of it?" (Whitehead, 1929, p 18). There are subjects and subjects. They are taught as autonomous units, and not as mutually reinforcing components of a system. They are taught as courses, unrelated to Man



and his ever-widening setting — 'inner' and 'outer' in interaction. What is really needed is to bring about a complete change in our teachers, their personality, their orientation. They must realise the meaning and significance of value education not as an end in itself but as a way of life. While 'value education' may be said to have universal and permanent features, it has the growing quality of a living organism, changing and adapting itself to new demands and new circumstances. Teachers and students must realize that 'value education' isn't just out there waiting for someone to come along and 'learn' it. Value education surfaces in response to questions. And new values or old values in new forms result from the asking of new questions; quite often new questions about old questions. Here is the point: Once you have learned how to ask questions — relevant and appropriate and substantial questions — you have learned how to learn and no one can keep you from learning whatever you want or need to know----- The most important and intellectual ability man has yet developed — the art and science of asking questions — is not taught in school" (Postman and Weingartner, 1971, p 34). Teacher-education must have three interrelated and mutually reinforcing components; (i) a course designed to update the knowledge not only of the subject or subjects they are teaching but all related disciplines; (ii) a course designed to make them familiar with new techniques, technologies and the media including the philosophy underlying them; and (iii) a course designed to help them handle their knowledge of subject and methodology with care, understanding and love, and thereby organize their teaching-learning activity in such a way as to contribute to the total development and growth of the personality of children. The focus in our teacher-training programmes must shift from teaching as a unidirectional, teacher-centred, knowledge-oriented activity to learning as learner-centred, experience-oriented interactional activity, involving sub-activities like problem solving, community living, drawing inferences, making generalisations, and moving from the mundane to the sublime, from the trivial to the enduring. Our message for teachers as learners is that "Knowledge emerges only through invention or reinvention, through the restless, impatient, continuing, hopeful inquiry men pursue in the world, with the world, and with each other" (Freire, 1972, p 46). Can this knowledge be imported and put to use in our setting?

"All attempts in the past to graft a foreign system of education on our soil have met with failure and they cannot meet with greater success in the future" (Shrimali, 1971, p 15). Our youngmen have no sense of direction. They are carried off their feet by the surface

galmour of western civilization, which they realize at a heavy price has nothing substantial to offer. They feel uprooted in their own setting and hence have no sense of belonging. Textbooks have precious little to offer; teachers have nothing to offer; parents have no time for them; the community is cold and indifferent to them. That's one main reason why they find themselves helpless and escape from a world of broken homes, sick hurry and divided aims into a world of fancy and fantasy created by that magic drug: 'brown sugar'. There is only one remedy from this cancerous disease which is eating into the vitals of our society. The remedy lies in creating an atmosphere of love and understanding which can make our bright young boys and girls feel that there is somebody inside and outside the classroom to whom they can turn for help and guidance. We have to have a new atmosphere charged with love and affection. It may mean changing the educational set-up — its physical structure, its atmosphere, its functions, its facilities, its roles and responsibilities, and also the way in which it prepares teachers to play new roles and accept new challenges. One of the challenges for teachers in Modern India is to have patience and an attitude based on love and fellow-feeling which will enable them to do all that they can to help not only those students who are 'sick' but also students coming from tribal, rural and other neglected sections of society who, though gifted and intelligent, feel alienated and handicapped at elitist institutions.

Should we organize a formal course or set of courses in 'value-orientation' for our teachers and learners? As I have already suggested, there is no point in trying to teach what cannot be taught, but only 'caught'. There are no set methods for teaching 'values'. Methods are derived from that 'atmosphere' which produces a kind of emotional, intellectual, and spiritual pressure and temperature 'in which perception crystallizes into conviction and learning into a sense of value', in which learners discern and feel the universal in the particular phenomenon' and teachers find the key they have been looking for in places unilluminated by the lamps set up by their society, organization and government.

I am an optimist. I know that "The world in which we exist has other aims. But it will pass away, burned up in the fire of its own hot passions; and from its ashes will spring a new and younger world, full of fresh hope, with the light of morning in its eyes" (Quoted by Chomsky, 1972, p 86).

Let's therefore — you and I — work together to give a shape to Tagore's vision of a global community -

Where the mind is without fear and the head is held



high;  
 Where knowledge is free;  
 Where the world has not been broken up into fragments  
 by narrow domestic walls;  
 Where words come from the depth of truth;  
 Where tireless striving stretches its arms towards perfection;  
 Where the clear stream of reason has not lost its way  
 into the dreary desert sand of dead habit;  
 Where the mind is led forward by Thee into overwind-  
 ing thought and action;  
 Into that heaven of freedom, my father, let my country  
 awake.

*[An earlier version of this paper was published in  
 Progressive Educational Herald (1988)]*

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## Communication

# Why Not Scrap All Exams?

Apropos A. Uplaonkar's article "Should Supplementary Examinations Be Abolished?" (*University News* Vol. XXIX, No. 22 of June 3, 1991) which makes interesting and informative reading, I was wondering whether the word "Supplementary" was redundant and had crept in inadvertently.

Why not accept certain realities regarding higher education straightway? Democratisation was favoured with a view to accommodating larger numbers of the erstwhile disadvantaged and deprived masses. This is an unavoidable but a welcome change as it will eventually help to deter the classes from exploiting the masses. However, mass education has come to mean relaxed criteria of admission and lax standards of passing somehow even through such utmost laxity as the UPSC question paper

leak.

Is this the whole story? And how can it be spicy without irony? In the non-formal 'open' system the happy learner earns "credit points" as he proceeds at his own convenient pace to complete his degree programme. Ironically, in our formal system the equally happy learner of today earns 'backlogs' as he proceeds at an even slower pace on his joyride to 'collect' his degree, thanks to the sympathetic policies of the universities. In the process it is the universities that suffer in many ways, as such sympathetic paroxysms send the examinations timetable to pieces faster than a house of cards. This is one loss of an administrative nature leading to delayed results. In the process a university gets engulfed in the sympathetic wave of the final clearing of the Augean stables of the backlog kings, consequently

squandering black degrees like black money. The real dramatic heights are scaled when the same backlog kings stage dharnas, launch agitations and organise morchas against the Vice-Chancellor, pressurising him to declare the results in time!

Great will be the day when the degree will be a testimony to character and caliber. However since most of the serious-minded academics and educationists don't visualize this prospect, one is tempted to ask: why not scrap all examinations and simply issue attendance certificates and leave the respective future employer to devise his own examinations for recruitment?

Shirish Chindhade,  
 Principal,  
 M.U.College of Commerce,  
 Pimpri,  
 Pune - 411 017.



# Powers and Functions of a Vice-Chancellor

## A Judicial Review in the light of the Marathwada University Case

N.L. Mitra\*

### Introduction

The decision of the Supreme Court of India in the *Marathwada University v. Seshrao Balwant Rao Chavan*<sup>1</sup> is a very important one because of the fact that the Supreme Court has gone into details of stipulating the powers and functions of the Vice-Chancellor of a University while deciding whether or not the act of the Vice-Chancellor of the University in appointing a Departmental Enquiry Committee and on the report of it discharging an officer of the University, is a valid one. While deciding the main issue the Court has given guidelines in various other connected matters by way of obiter<sup>2</sup> which are going to be subsequently referred to in future court cases. The Court has also liberally referred to observations of various Education Commissions and academicians in order to make a general appreciation of the status and power of a Vice-Chancellor of the University.

### Brief Facts of the Case

Before highlighting the decision on the main and other associated issues let us refer to the facts of the case in brief. The respondent was a Deputy Registrar of the University who was directed to discharge the duties of the Controller of Examinations (C.E.) when the regular incumbent went on leave. During the tenure of the respondent as the C.E., the bill of a printer of the University with heavy claims of about Rs. 6,00,000/- having fallen due for a long time, the printer appealed to the University as well as the Prime Minister of the country who referred the matter to the University for quick action. The Executive Council (E.C.) of the University constituted a four member enquiry committee including the Vice-Chancellor (V.C.) to enquire into the allegation of delay in payment as well as reasons therefor and to report to the E.C. The Committee submitted its report making some 'prima facie' observations against the respondent. Thereupon the E.C. appointed another committee to thoroughly examine the matter and report. This committee after thorough enquiry found no substance in the allegation of intentional delay on the part of the respondent. When this

report was placed before the E.C., it entrusted the question to the V.C. who agreed to take decision on the matter within a month. Purporting to act under the power given by the E.C., the Vice-Chancellor appointed a departmental enquiry to be proceeded against with one Mr. Motale, an Advocate as the enquiring officer. A list of charges of negligence and intentional suppression of information from the E.C. and other Enquiry committees, was framed. Finally, after hearing the officer submitted the report to the V.C., who on the report of the charge being substantiated, decided to dismiss the respondent. A writ petition followed to the High Court (H.C.) and under the direction of the H.C. the matter was placed before the E.C. who ratified the 'whole action' of the Vice-Chancellor. Thereafter, the H.C. decided that "the acts done by the V.C. remain the acts without authority or powers and the defects cannot be cured by subsequent resolution." Hence this civil appeal to the Supreme Court.

So the main issue on the appeal was, "can the act of the V.C. be legitimised on passing of a resolution of ratification by the E.C. subsequently in the above situation" ! But many other incidental issues were also raised, like :

- (a) Can the Executive Council delegate its authority where the authority is statutory in nature or judicial in character ?
- (b) What can be the extent of express and implied authority of the Vice-Chancellor ?
- (c) How is the resolution of any University body to be interpreted ?
- (d) When can the V.C. use his emergency power ?

### General Observations about the Powers of the Vice-Chancellor

After quoting extensively from the First and the Second Education Commissions' Reports on the subject as well as from the writings of Dr. A.H. Homadi and reviewing the same, the Supreme Court of India (SCI) has come to the conclusion that :

"The Vice-Chancellor in every University is thus the conscious keeper of the University and constitu-

\*Professor of Law, National Law School of India University, Bangalore.



tional ruler. He is the principal executive and academic officer of the University. He is entrusted with the responsibility of overall administration of academic as well as non-academic affairs. For these purposes, the Act confers both express and implied powers on the Vice-Chancellor. The express powers include among others, the duty to ensure that the provisions of the Act, Statutes, Ordinances and Regulations are observed by all concerned [Section 11 (3)]. The Vice-Chancellor has a right to regulate the work and conduct of officers and teaching and other employees of the University [Section 11 (6) (a)]. He has also emergency powers to deal with any untoward situation [Section 11 (4)]. The power conferred under Sec. 11 (4) is indeed significant. If the Vice-Chancellor believes that a situation calls for immediate action, he can take such action as he thinks necessary though in the normal course he is not competent to take that action. He must, however, report to the concerned authority or body who would, in the ordinary course, have dealt the matter. That is not all. His pivotal position as the principal executive officer also carries with him the implied power. It is the magisterial power, which is, in our opinion, plainly to be inferred. This power is essential for him to maintain domestic discipline in the academic and non-academic affairs. In a wide variety of situations in the relationship of tutor and pupil, he has to act firmly and promptly to put down indiscipline and malpractice. It may not be illegitimate if he could call to aid his implied powers and all emergency powers to deal with all such situations."<sup>3</sup>

From the above sweeping observation it can be observed that the SCI envisages the following types of powers of the Vice-Chancellor :

- (a) His express powers which he derives from the Act, Statutes, Ordinances and Rules: these are his common statutory powers which he has to exercise in ordinary circumstances.
- (b) His implied powers which he obtains on account of being principal executive officer of the University : these powers, as the SCI suggests, are magisterial powers to maintain rule of law & law and order in the academic campus;
- (c) His emergency powers which he derives from the Act to deal with emergency situations; and
- (d) His delegated authority which he gets from

the various authorities and bodies of the University, but according to the manner prescribed in Acts, Statutes and Regulations.

### Extent of Implication in the Express Power

In most of the University Acts the Vice-Chancellor is given the power to " regulate the work and conduct of officers of the University". Does that imply the power to take disciplinary action against those who commit breach of duties ? One has to bear in mind that most of the University Acts also provide that the appointment of officers and others is to be the domain of powers of the E.C. which happens to be the principal executive body or authority. The Supreme Court has tried to solve the problem with the following equation, viz., "power to appoint officers on the Executive Council ... generally includes the power to remove". The Court therefore, did not agree with the suggestion that power to regulate work and conduct of the officer imply the power of disciplinary action to be taken against.

### Extent of Delegation and Delegated Power

According to Halsbury's Laws of England, "In accordance with the maxim *delegatus non potest delegare*, a statutory power must be exercised *only* by the body or officer in whom it has been confided, unless sub-delegation of the power is authorised by express words or necessary implication. There is a strong presumption against construing a grant of legislative, judicial or disciplinary power as impliedly authorising sub-delegation; and the same may be said of any power to the exercise of which the designated body should address its own mind"<sup>4</sup>. Like Marathwada University, the Act of most of the universities of India provides for express terms of delegation of authority to the University officers. The Act provides for delegation with the approval of the Chancellor, any of the power of the University authority bodies excepting the powers which must be addressed by the body itself. So prior consent of the Chancellor is needed for delegation of any authority to the Vice-Chancellor by the Executive Council. In the Marathwada University case the Court has very rightly concluded that the delegation of authority for ordering a departmental enquiry was not made in spite of the fact that the E.C. resolved to give all powers on the matter to the V.C. because the resolution did not have the consent of the Chancellor before the V.C. exercised the power. In case there is no specific express provision in the University Act for delegation of a legislative power or a power judicial in nature, the Executive Council cannot delegate such powers to any of its officers.



## Nature of Construction of a Resolution

Though the Supreme Court did not specifically mention but it has interpreted the content of the resolution of delegation on the basis of *contemporanea expositio*. The E.C. resolved to give "Full power ---- to the Vice-Chancellor to take a decision on this question ..." What was that question? The report of the Enquiry Committee headed by Mr. N.B.Chavan was placed in the meeting. The Committee did not find the respondent in any way responsible for the delay in paying the bill. Naturally if one applies the circumstantial evidences one would agree with the Supreme Court that "full power to take a decision" was obviously related to the report of Mr. Chavan. It was a power either to accept or reject the report, nothing more than that. Any university resolution, therefore, is to be interpreted in entirety in the context of entire circumstantial facts and explanations.

## Ratification in Delegation Process

Ratification in the general principle of agency goes with the rule, '*Omino rati habitio retrorahitur et mandatio oequiparatur apriori*', briefly thereby meaning that ratification applies with retrospective effect. But ratification in a statutory position must be distinguished with the ratification in the principle of agency. Once delegated the official to whom the power is delegated becomes all powerful and does not act as the agent. As for example, in the case, had the Vice-Chancellor been empowered with proper delegation of authority he would assume the power of authority and not act merely as the representative of the Executive Council. As the chief executive the V.C. acts as the representative to execute all decisions of the E.C. But where he is empowered with the power of the E.C., he himself becomes a decision maker and the executor. That is not so in the case of principal-agency relation. "Every act whether lawful or unlawful, which is capable of being done by means of an agent (except an act which is in its inception void) is capable of ratification by the person in whose name or on whose behalf it is done"<sup>5</sup>. But in a statutory position no ratification can validate and legitimize the action. The Court rightly observed, "The statutory authority cannot travel beyond the power conferred and any action without power has no legal validity. It is *ab initio* void and cannot be ratified"<sup>6</sup>. In the Marathwada case, however, in the so called ratification also the consent of the Chancellor was not there.

## Order of Discharge Without Authority

If there is no prior delegation in the express terms as provided in the Act, the act of the Vice-Chancellor would be without an authority and hence void. Subsequent resolution of the Executive Council ratifying the action would not legitimize the action.

## Concluding Remarks

Number of all types of litigations in general and service litigations in particular has gone up very high in

the last three decades specially because of :

- (a) prolific growth of higher education and huge expansion with all complexities in the legal literature regulating Institutions; and
- (b) reducing the high office of Vice-Chancellor to political appointments and thereby polluting the academic atmosphere with all arbitrary actions.

Whereas the former requires a national level training system for the university officers the latter requires a strong and quickly effective institution for obtaining justice. The number of writ petitions against university administration in India has gone stupendously high in the last three decades. It is therefore necessary for having a quick disposal institution for University litigations. It is high time to think of a University Tribunal on all India basis with regional /state circuits.

## Notes & References

1. AIR 1989 SC 1582
2. Statement of law not being major premise of the selected facts of the decision.
3. Supra note 1, p 1586
4. Vol 1 (4th Edn) para 32
5. Bowstead On Agency (14th Edn.) p 39
6. Marathwada University v. S.B.R.Chavan, op cit, p 1588

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# University Autonomy and Accountability

K. G. Deshmukh\*

Education in India, today, needs to be managed in an atmosphere of utmost intellectual rigour and seriousness of purpose along with freedom essential for innovation and creativity. With the far reaching changes that are to be brought-in in quality and range of education, as enunciated in 'New Education Policy', the process of introducing discipline into the system will have to be started. In higher education one must look to the universities as centres of excellence in teaching, research and extension. With the advent of science and technology, universities will have to upgrade their courses and adopt changes which would enable them to respond to new socio-economic changes. That is, universities should be "autonomous", so that they are able to perform their duties in the framework of social context, political environment and technological challenges. Unless these academic institutions which are engaged in futuristic thinking and fundamental research are insulated from populist and political pressures, they will not be able to achieve anything worthwhile in these directions. Academic institutions have to prepare younger generation, passing through their portals, for tomorrow which will be totally different from the challenges of yesterday and today. With this thinking in view 'autonomous' character of the academic institutions will have to be thought of.

The modern world is becoming rapidly and increasingly knowledge and technology based. This gives to the universities a role and significance in the life of nation that they did not have before. This lies to a large measure at the root of crisis and challenges facing the universities. Acquiring knowledge and its advancement, which is a collective task of teachers and students, is most important. Even more important will be the use of knowledge for the material, cultural and spiritual advancement of the people. This calls for a radical transformation in the climate, work and style of university functioning.

While 'autonomy' is an essential pre-requisite for the university to enable it to pursue its goals and for the faculty members and students to carry on their role of teaching, learning, research and extension, absolute

autonomy is an impossible ideal in any society. Under no circumstances can institutional independence be considered absolute. There has to be 'accountability' from educational institutions receiving public support. In a democratic society like ours, the university should have institutional autonomy for pursuit of its goals of seeking truth and knowledge and for conducting free enquiry. With this in view, five components of University autonomy can be broadly listed: (i) freedom of appointment, (ii) freedom to determine curricula and standards, (iii) freedom of admission, (iv) freedom to determine the balance between teaching and research, and (v) freedom to determine the shape of development. Accepting these as the broad criteria of autonomy, conditions of autonomy are violated in one form or the other. In Bihar, the Vice-Chancellors hold office at the pleasure of the Chancellor. They are also sacked from the office if the Chancellor so decides. In recent past, this has happened twice.

Today, the Vice-Chancellors are required to cope up with administrative, academic, moral and political, and students' problems of any magnitude on their own. At times they spend their time away from the campuses under police protection. They may be people with academic excellence but cannot manage the university affairs with the limitations imposed by the act. The process of decision making has become so complex with so many bodies comprising elected members, trade unions etc. Gone are the days when Vice-Chancellors were expected to call only on the Govt. and Chief Ministers. Mere secretaries to Govt. did not keep them waiting. But today, the picture is very gloomy. They have to go from clerk to clerk to get their grants released and posts sanctioned. Even in Maharashtra, with the financial control of the State Govt. there is no freedom in creating the posts and incurring any expenditure on development work without prior permission of State Government.

Today, there is a great confusion between roles and responsibilities. Vice-Chancellors normally are the only ones held responsible for whatever goes wrong, even though so many other individuals and bodies have acquired the power to take decision, or stall it indefinitely. It is necessary to identify all those, besides the Vice-Chancellors and be held responsible. It

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*Vice-Chancellor, Amravati University,  
Amravati -444 604.*



would be therefore, realistic to consider 'autonomy' in terms of managerial concept as 'functional autonomy' so that university would be able to function in a credible fashion within the financial, administrative, political and other constraints imposed from outside.

University is the most complex organisation with numerous responsibilities. In a decision making process, at times the most flexible approach is necessary. By and large traditional universities in India have the rigid structure which was a British legacy. However, universities in U.K. have changed their approach so as to respond to socio-economic challenges due to industrial revolution. In the process they have become more amenable to societal thinking and quickly adopt changes so as to suit multi-institutional network.

Universities financed by public funds cannot be left entirely to themselves, but have to be 'accountable'. Educational institutions which are responsible for shaping the younger generation must be evaluated in terms of performance criteria and suitable directives have to be issued depending upon their records of success and failures so as to improve their working. Thus management system of the university have to be such, that it can function to achieve the objectives for which it may be held responsible. It is, therefore, necessary to decide minimum requirement of accountability for the university system, functions of which are now well defined, viz. (i) determination of courses of studies, (ii) making arrangements for teaching and research, (iii) making arrangements for extension & co-curricular activities, (iv) conduct of examinations & evaluation, (v) admission of students & prescribing standards for admission, (vi) creation of posts & making appointments, (vii) affiliation and recognition of colleges & institutions, (viii) promotion of corporate life on the campus, (ix) planning for short & long term academic programmes, (x) to do manpower planning & decide about the different types of short and long term courses, (xi) innovation in educational technology and curricular development, and (xii) mobilisation of resources, etc.

These are the areas for which the university system will be accountable. One must start looking for pre-requisites of functional autonomy without which the universities cannot expect to perform the tasks assigned to them. The foremost will be financial assistance from the State Government and the University Grants Commission, without which no institution will be able to function. The Government of Maharashtra recently started working on zero-base-budgeting concept, allowing the institutions to starve by not financing them adequately.

While categorising the functions of universities, one must identify the agencies involved in the performance of each of these areas. They are (i) Officers of the universities like Chancellor, Vice-Chancellor, Registrar, Deans of faculties, Heads of Departments etc. and their well defined responsibilities, (ii) Bodies like – Boards of Studies, Faculty, Academic Council, Executive Council, Senate etc. and their responsibilities. They must determine the methodologies and processes in the performance of the functions of universities. Proper method of interactive mechanisms, both internal and external, must be evolved in decision making. However, they will have to work under the framework imposed by the university act, statutes & ordinances. The constraints are also imposed by the Govt. through national policies, and U.G.C. through its statutory responsibilities in the area of standards etc. The authorities of the universities while taking decision will have to think of internal constraints arising out of the organisational efficiency, other work and financial discipline. Mechanism will have to be evolved to take corrective measures to increase the efficiency of universities so as to be accountable to the society at large.

It is necessary, therefore, to effect the process of administrative restructuring to make universities function in a proper direction. For this, academic community should come forward to participate actively in working out the modalities of changing the present system, which will introduce more flexibility and much needed 'functional autonomy and accountability'.

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## To Our Readers

Knowledgeable and perceptive as they are, our contributors must not necessarily be allowed to have the last word. It is for you, the readers, to join issues with them. Our columns are as much open to you as to our contributors. Your communications should, however, be brief and to the point.

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# Towards Total Literacy By 1995

Kailash Chandra Das\*

## Introduction

Education is a form of human interaction. It is a social act that is made possible through a network of human relationships. It is this network, and the individual relations and roles of people within it, that really determines the nature of education in a particular society. Despite the massive expansion of education in India since its independence, the literacy rate has only increased from 16.67 percent in 1950-51 to 36.23 in 1981-82. Today India has 459 million illiterates which is equal to the population of USA and U.K. The gains achieved in literacy which went up from 60 million in 1951 to 247 million in 1981 have been more than neutralized by the alarming increase in population. It is now felt that countrywide people's movement to lend support and strength to the cause of nation-building in general, and to meet the challenges of illiteracy and adult education in particular, is the need of hour. It is found that people's movements were able to eradicate illiteracy in countries like Brazil, Chile, Cuba, Nicaragua and also the state of Kerala in our country.

## Issue and Problems

India is a vast country having total population of 844 millions as per 1991 census. It is projected to go upto 965 millions by 2000 AD. One of the paradoxes in the Indian literacy situation is that while percentage of literacy has been increasing every decade, the total number of illiterates has also been increasing. In the year 1971 there were 156.4 million literates against 372.1 million illiterates. But interestingly, after a decade the literate population increased to 237.9 million whereas the total number of illiterates rose to 419.9 million. (Sivaswamy, 1990).

In India, the percentage of illiterate women is 71.1 percent as against 42.8 percent men. The situation is much worse in rural India where literacy rate is 29.65 percent in contrast to the urban literacy rate of 57.40 percent, though it is here that 76.69 percent of total population lives. A UNESCO survey of 20 countries of the Asia and the Pacific region shows that India with an illiterate population 56.5 percent in the 15 plus age group is better off than only four others — Pakistan, Afghanistan, Bangladesh and Nepal. It is way behind

China, Iran, Indonesia, Malaysia, Sri Lanka and a host of other nations some of which of course have the advantage of a small population. It is also interesting to note from this survey that India does not figure even in the list of 12 countries which are expected to achieve full literacy latest by 1995. The slow pace of universalizing primary education as indicated in the Unesco survey, reflects poorly on India's educational effort. The inadequacies of the schooling system undoubtedly are such that it cannot be counted upon to remedy the phenomenon of illiteracy in the 5-15 age group particularly in rural areas.

In order to eradicate illiteracy from the country, a massive national campaign under National Literacy Mission (NLM) was launched on 5th May, 1988 to impart functional literacy to 80 million illiterate persons in the age group of 15-35 by 1995. The promise with which the NLM was heralded, namely that it would make a dent in the crucial area of motivation for adult learners through innovative, indigenously designed instruction/learning material, seems to have suffered considerable erosion where its operational relevance is concerned. Apart from niggardly budgetary allocations, what the NLM has to contend with is a constellation of adverse factors including the widespread lack of administrative zeal in the departments of education in several states and the paucity of truly committed voluntary agencies which could make socially meaningful uses of government grants. Even more disconcerting is the failure of the Mission authorities, at different levels, to secure people's participation in the campaign for literacy, post-literacy and continued functional literacy programmes. Besides, pushing literacy through adult education centers has not worked too well as it was purely a government programme.

It has been reported in the Press that the National Literacy Mission has proposed the closure of 2,84,000 adult literacy centers in the country. In the context of budgetary constraints and the great potential of the alternative 'campaign approach' to adult literacy, it perhaps make sense to wind up a system which, in official assessment, has failed to make a dent in adult illiteracy rates.

## Suggestions

A differentiated view is necessary of people's movement arousing consciousness in regard to and support-

\*College of Library and Information Science,  
P.O. Ankushpur, District Ganjam - 761 100 (Orissa).



ing the cause of literacy and adult education on the one hand and of the agents of the desired change on the other. Of course, political will and its expression into governmental action and financial support would continue to be the backbone of the programme. In addition, the oft-repeated message that the National Literacy Mission is a societal mission envisaging participation by all sections of society can obviously be only of limited value until it crystallizes into specific action programmes which could canalize the energies of volunteer groups such as teachers, students as also other professionals, government servants (both retired and in active service), members of voluntary organizations, and in fact all citizens who are capable and willing to extend a helping hand should be involved. The capability can even be generated through a programme of training if it is not there (Narayan, 1986).

The proposal for involving college and university students in an extensive way in the literacy programme was suggested by Prof Yash Pal, the then Chairman of the University Grants Commission and a member of the Council of NLM authority who made an appeal for "mass action for national regeneration." The proposal was to move college and university students for one year away from their buildings and curricula into villages. But after several discussions the proposal of extension of vacations to involve students in this social service was found practical. It is well recognized that the campaign for functional literacy has to be welded with the National Service Scheme at university level. But to make it a success, appropriate strategies are to be identified and implemented.

Most of the literacy programmes are structured and voluntary organizations are not being trusted for implementing these programmes. The reasons may be partly political and partly social. But it is very necessary that voluntary organizations and even religious organizations may be identified and these organizations should be required to help in the progress of imparting education.

The expenditure on education as percentage of GNP has been low in India, at around 3 per cent, which is very low when compared with some underdeveloped countries such as Iran (5.1%), Kenya (5.01%), Malaysia (6.3%). Education Commission (1964-66) had suggested to raise it to the level of 6 percent (Datta, 1986).

Post-literacy literature must be provided to the neoliterates. Otherwise there is every likelihood of their again relapsing into illiteracy. This can be possible only by creating a well-knit chain of public libraries,

equipped with resources, to render door to door service. In preparation and publication of literature for the neo-literates, the library will assess the demand of readers, evaluate them in the light of the existing literature and then make it known to the publishing houses as well as the writers the exact requirement and the nature and kind of the books needed. (Sahay, 1987).

Besides these, certain points such as factors leading to high rate of dropouts or low retention rates in schools, universalisation of primary education, lowering the age of admission, creation of better physical facilities in schools, scholarships and free education to poor and meritorious students, autonomy to the various agencies to create and develop various literacy programmes and implement it as per their needs and suitability are also to be seriously considered.

## Conclusion

The mass campaign approach, based on voluntary effort, and mobilization of the community, has had a remarkable success in Kerala. The Ramamurti Committee has also pointed out that the success in Kerala in adult literacy is the result of more than 100 years of sustained effort in promoting school education. The commendable Kottayam model through which a 100 per cent literacy level was achieved (from 96 per cent) in 100 days benefiting 2,200 citizens, with a grant of Rs.1,67,300 by the centre may not admit of replication every where since it was organized imaginatively and with dedication by the officials, university students voluntary organizations as well as community and that too in an already high literacy milieu. But it stands out as the most promising guideline and requires to be followed on a planned basis. The social evil of illiteracy can be rooted out with the cooperation of the people. Adequate financial provision must be made in the eighth plan for the literacy programme. There is still the hazard that India will emerge as world's largest illiterate democracy by 1995 if the situation is not handled with utmost sincerity, dedication and with a missionary zeal.

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# THE ACU IN CONFERENCE DELHI, 1991

Jagadish Manrakhan\*

## I

*Despite growing uncertainty in the immediacy*

*due to the Gulf crisis, the Executive Heads of the ACU*

*thro' the kind courtesy of the Goddess of Learning, Sarasvati,*

*gathered in safety by mid-January at Delhi, shepherded by the thoughtful AIU,*

*to better cope with the Future, the Past having probed deeply.*

## II

*Social and cultural events entwined with a rewarding agenda on Higher Education —*

*is the latter a luxury or a necessity?*

*is mass output compatible with excellence?*

*how best to achieve autonomy with State funding vis-a-vis national governance?*

*effect innovation and change with due regard to accountability and quality?*

*switch from craft to teaching technology with distance education?*

## III

*Superbly organised, that AIU 'First' developed its own special synergy —*

*'cos of welcome rapturous to mark the return to the ACU of Pakistani universities;*

*'cos of trenchant attacks on the Indian University System from within*

*blunted by its brilliant defence by those from overseas with more means;*

*'cos of the coming of age of Distance Learning; 'cos of the consecration of Women Studies with a Directory thereon for India, and the Tom Symons' Trophy.*

## Notes

- (i) the acronym ACU stands for the Association of Commonwealth Universities established in 1913. The oldest inter-university organisation in the world, it has presently 360 member institutions from more than 30 countries.
- (ii) The AIU, Association of Indian Universities, founded in 1925 has 189 member institutions, 119 of which belong to the ACU. Among its latest publications is a 'Directory of Women's Studies in India' (jointly with the Commonwealth of Learning), prepared under the overall coordination of the AIU's secretary, Professor S. K. Agrawala. The ACU 1991 Delhi Conference of Executive Heads was the first ever held in India.
- (iii) Professor Tom Symons is the Founder-President of Trent University, Canada; and Vanier Professor of History there. Has long served the ACU as Hon. Treasurer. In 1973, he established the Tom Symons Award, a specially designed medal presented annually, to honour those who have made outstanding contributions to the ACU and to Commonwealth Universities. The 1990 Award was presented at the Delhi Conference, to Mrs Kamalini Bhansali, former Vice-Chancellor of the Shreemati Nathibai Damodar Thackersey (SNDT) Women's University, Bombay.

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\*Vice-Chancellor, University of Mauritius, Reduit, Mauritius.



# Gandhian Ideals and Gandhigram

His Excellency Shri Bhishma Narain Singh, a noted Gandhian and the Governor of Tamilnadu, delivered the Convocation Address at the twelfth convocation of the Gandhigram Rural Institute (Deemed University), Gandhigram. He said, "It is not enough to sit back and feel that since the institute was founded by Gandhiji's contemporaries, mere acceptance of Gandhian ideals is enough. Gandhigram must look round this community and ask itself a very relevant question. For four decades the institute and institution has been working in this rural area. Is there a single village which has become totally self-sufficient? Is there a single community where Gandhigram has contributed to enhancement of skills to ensure that each family earns enough to live a life of human dignity? If not, then Gandhigram is certainly not achieving its full potential." Excerpts

Gandhigram was started in 1947 by a group of dedicated disciples of Gandhiji and had in its conception the Gandhian ideals and constructive programmes set out by Gandhiji. Gandhiji first wrote about his constructive programme in 1941. He felt that this programme was the truthful and non-violent way of achieving Purna Swaraj. The fundamental assumption was that each individual would contribute to working together in areas of communal unity, removal of untouchability, prohibition, development

geography and of education in the Indian population. But he felt that a strong India could not be built without some sacrifice. He desired that every individual should sacrifice some amount of his personal welfare in order to achieve public welfare. He felt that the spirit of sacrifice itself would serve as a bond uniting people to work together to achieve a common purpose. Secondly the programme required clear identification of activities at the micro-level and listing of skills and strengths at the level

## CONVOCAATION

of Khadi and Village industries, improvement of village sanitation, education in health and hygiene, attention to basic education as well as adult education, and other activities aimed at achieving economic equality. Gandhiji himself realised that what he was suggesting was a stupendous task. Firstly, it involved the basic concept that all the people could be made to work together for a common good. Gandhiji was well aware of the diversities of culture, of

of each village. Ideally Gandhiji accepted each village should be self-sufficient; each village to produce the required food for its consumption, as well as cloth, soap, agricultural implements etc. for its own needs. There would be development of Khadi as well as rural industries to meet these demands. Each village would be economically self-sufficient. Gandhiji was alive to the problems of external influences on the village. He was aware that

the temptation of the urban manufactured goods would result in people moving away from rural industry. He realised that manufactured soap had a greater attraction than hand-made soap and similarly, manufactured paper over hand-made paper. But primarily his goal was the creation of a non-exploitative society. He felt that this could be achieved only if the individual desires were suppressed in favour of public welfare. However he was very clear in his mind that this suppression should be entirely voluntary and most importantly non-violent. Thus the participation of villagers in a programme of total self-sufficiency should come about through voluntary effort. Once villagers accepted this path to economic self-reliance, he felt that the role of caste and creed in Social status and access to wealth would change and the village would be governed as a harmonious, self-integrated economic unit. He also realised that it may not be possible to achieve this goal in all villages simultaneously. But adequate number of experiments could be taken up and nursed into success. He felt that over a period of time these could form the nucleus for further development of Village Swaraj.

You are all aware of Gandhiji's writings. I have tried to reiterate his concepts as the backdrop of his vision of India, his vision of Independence. The concepts however required one vital major ingredient. That is to say, in order to make Gandhiji's vision a success, it was necessary to have in each village or at least in each group of villages, a motivated, committed, dedicated group of persons who could guide the villages into economic self-sufficiency. Gandhiji repeatedly wrote that villagers were ignorant and often unaware of the opportunities available to them. He was worried about the illiteracy and lack of ac-



cess to health, sanitation, and hygiene. He realised that skills available in villages were primitive and needed upgradation. He was therefore quite conscious that village self-sufficiency was not a concept which could emerge automatically from within these villages. There had to be a guide—a pressure, some pulling and pushing to orient villagers towards this end. Thus a presence of group of persons who would be adequately educated and skilled and yet able to communicate freely with the villagers was essential. He should belong to the village and yet form a link to the world outside. He should be the helping hand that pulls the village up towards economic self-reliance.

Soon after independence, you are aware that a genuine effort was made to make this concept real. The seeds of community development efforts sprouted on the soils of this Gandhian ideology. The community development movement by Sri S.K. Dey, had a dual approach. The first was a Government to provide basic infrastructure for the villagers, rightly called as hardware of development. This included construction of roads, irrigation tanks, school buildings, primary health centres, putting up of street lights and other fundamental amenities. The second and much more important thrust was extension effort. A vast army of village level workers were recruited. These were motivated and committed volunteers who were willing to spend their lifetime in the villages to help the community, modernise and introduce new methods of agriculture, improve their education and health awareness and in general be their friend, philosopher and guide. Pandit Jawaharlal Nehru said at that time “these community projects require trained men, not tip-top trained men, some certainly first class men at the top, others trained

in various ways. Whether they are overseers or village workers, the point is we want trained men. And the question arises as to whether the type of trained men we want in the country are being produced in our training establishments, in our Universities and the like. It is a difficult problem”. I shall return to this problem shortly.

The other major effort was development of Panchayat Raj System. In a country like India, it was recognised that only the village communities would be in a position to decide on their own welfare. Imposed programmes of development from the state or central levels might not be relevant to meet the actual requirement of the people. The concept was that duly elected local bodies should progressively take over the responsibilities of managing the village economy including the tasks of education, health, sanitation, hygiene etc. The trained workers that I have mentioned were to be used as advisers to these local bodies, to convey ideas of technological changes and skills and to develop abilities of local management.

In the early sixties people like us, committed public men, were all extremely satisfied with the way in which Gandhiji's ideas were being put into progress. Institutions like Gandhigram, Nilokheri and others were striving hard to meet the growing demands for the trained village level workers which Panditji was talking about.

Looking back at that time, we may wonder what was it that has gone wrong, where was it that the dream was shattered. In my opinion, one major event contributed to the deviation from the Gandhian path we were following up to that time.

That major event was the problem of the stability of local self-governments. The political pres-

ures in the states did not permit power and responsibility to be left in the hands of local bodies. Decisions for planning and programmes were gradually withdrawn from the local bodies into the hands of State Governments and Central Government. The arguments were that the programmes were technically more complicated and hence could not be left to be managed at the village level. Using agriculture as an example, State Governments withdrew responsibilities for water supply, health, education from local bodies. Basically it was a question of delegation of power. The State administrators as well as politicians felt that too much power in the hands of local bodies meant reduction in their own power. The very concept of decentralisation suffered a setback.

Together with the slowing down of emphasis on village based development was the growth of large industry at the national level. The resultant investment in heavy industry and in large factories led to increasing urbanisation. The trained men of Panditji moved away from villages to more comfortable, better paid, urban occupations. Panditji wanted that the growth of factories and growth of villages must go together. He felt that investment in industries and investment in rural infrastructure are complementary, that there would be a time when industrial products would be consumed in villages and rural products find markets in urban areas. But the urban bias of planners and administrators resulted in a gradual shift in emphasis whereby the activities of the State for planned economic development concentrated more and more on urban based visible programmes. We had, at the end of the eighties the villages much better off in agriculture, but in very little else.



You can look at the history of your own institution against this backdrop. You are aware, as well as I am that this institution has had to take a back seat in the last two decades in respect of its contributions to rural economic welfare. I am here today primarily to say that the time has come for a major change in emphasis. We have reached a turning point and we must make the turn very quickly. The decade of the eighties saw a raging argument at the national and international level on fundamental approaches to development. The question of growth versus equity was on the lips of economists, politicians and administrators. The earlier supporters of the 'trickle down theory' and the Kuznets Curve approach to redistribution continued to argue that investment in highly productive capital intensive activities would eventually lead to better income distribution. Supporters of the equity theory argued that it was necessary to increase the basic entitlements of the poor immediately. It was the responsibility of the State to see that adequate food, clothing and shelter was made available to the poor. It was argued that redistribution takes too long and that today's poor should not be deprived from being able to live a life of human dignity. Even internationally it is now recognised that redistribution policies alone are inadequate to ensure equitable income distribution. It is recognised that there must be strategies for direct intervention which will help the poor man quickly and directly. There must be programmes to help him to educate himself, to teach him skills so that he can employ himself better and to provide assets such as lands or credit so that his earning capacity can be increased.

In a country like India while concepts like these can easily be articulated at the national level, it is much more difficult to convert them into village level realities. No doubt we have the Integrated Rural

Development Programme, Jawahar Rozgar Yojana, Nehru Rozgar Yojana and number of programmes intended to benefit small and marginal farmers, village artisans and rural unemployed youth. But the programmes are not statistics alone. The end success of the programme is in ensuring that the direct beneficiaries are economically better off at the end of the programme. Statistics often hide the facts. Mere distribution of credit does not lead to creation of permanent income earning capacity. Hundreds of crores are made available for these programmes, but it is important to ensure that the programmes are implemented efficiently and effectively.

How can these be done most effectively? There is need for a link between the resources on one hand and the demands on the other. We need people and organisations who will wholeheartedly and with total commitment take over the resources and pass it on to the poor, while at the same time helping him, nursing him and monitoring his activities so that he reaches the position of economic stability. Government Departments and Government officers alone cannot do this. This is because their involvement with the particular community or with the particular village is insignificant; they are transferable and move from place to place. They are bound down by rules and regulations and responsibilities and accountability to higher authorities. Therefore we must look outside. What better alternative can there be than institutions like Gandhigram? You have been part of this community for over four decades now. Your work in the areas of rural health and family planning has won national and international acclaim. Your training courses are held up as symbols in the area of rural development.

The time, I think, has come for a more active role in the community. It is not enough to sit back and feel

that since the institute was founded by Gandhiji's contemporaries, mere acceptance of Gandhian ideals is enough. Gandhigram must look round this community and ask itself a very relevant question — for four decades the institute and institution has been working in this rural area. Is there a single village which has become totally self-sufficient? Is there a single community where Gandhigram has contributed to enhancement of skills to ensure that each family earns enough to live a life of human dignity? If not then Gandhigram is certainly not achieving its full potential. The role of Gandhigram is not merely to train students into getting degrees or to make one week village visits but primarily to participate and to involve itself much more closely with the life of the villages amongst which it is situated and to bring to these villages technological innovations which are relevant for upgrading skills and employment opportunities therein. It must bring messages of health, education and sanitation, so that all water-borne diseases are eradicated. It must improve the levels of education such that there is no dropout among female children. I am mentioning this particularly as female literacy is still a major problem in this area. As your former Vice-Chancellor has mentioned, the University must ask itself the question as to how its system relates itself to the needs of the community in its area. Is it in a position to influence the structure and character of economic development of the community? Is it sensible in adapting educational systems for these needs and most fundamentally, does this education contribute to the reduction in economic inequality and poverty?

To the students and graduates, as well as faculty of the Institute, I can suggest that this should be your major role. If this objective is not achieved, the Rural Institute has not achieved its full potential. I would request all present to address themselves to this problem.



# Refresher Course in Economics

The Academic Staff College, Andhra University, recently concluded its third Refresher Course in Economics. Delivering the valedictory address Dr.M. Gopalakrishna Reddy, In-charge Vice-Chancellor, Andhra University said that the basic principle of tackling the problem of unlimited wants and limited means continues to remain in Economics Science even today. He said that professionalism had entered the economics discipline and made it more difficult by adding new jargon. But the economics teachers must be very careful in updating their knowledge through programmes like this. One may call this as training orientation or teacher development but it was essential for every teacher, he said. Dr.Reddy urged the teachers to undertake research with small research projects so that they could enrich their teaching.

Dr.K.S.Chalam, Director, Academic Staff College Andhra University, who presided, said that economics discipline was now being influenced by innovations and research in every discipline particularly in social sciences. The status of

areas were i) Advanced Economic Theory, ii) Public Economic Policy, iii) Human Resource Development, and iv) Environmental Economics.

## INCARF-1993

An International Conference on CAD, CAM, Robotics and Factories of the Future (INCARF) will be held at the Indian Institute of Technology, New Delhi on December 16-19, 1993. The objective of the conference is to bring together researchers and practitioners from Government, R & D organisations, Industry and Academia interested in the multi-disciplinary fields of design and productivity aspects of advanced manufacturing systems involving CAD, CAE, CIM, Parametric Technology, AI, Robotics, Factory of the Future, AGV Technology, etc, to discuss latest advancements and to address productivity enhancement issues.

The Topics for discussion in the conference include: (1) CAED : CAD, CAT, FEM, Kinematics, Dynamics, Simulation, Analysis, Computer Graphics, Off-line Programming; (2) CIM : CAD/CAM.

## CAMPUS NEWS

economics has improved not only because of the quantitative dimension brought into it, but also because of its transcendental character of entering into every discipline. Therefore, he appealed to the economics teachers to upgrade their knowledge every now and then to remain active in the profession.

The whole programme was divided in 4 sessions and the thrust

CNC/DNC, FMS, AGV, integration of CNC, interactions between Robotics, Control, Vision, AI, Machine intelligence and other automation systems and communication standards; (3) DESIGN/BUILD AUTOMATION : Parametric Programming, Design, Sensitivity, Optimization, Variational Geometry, Generic Modelling, Identification, Design Automation, Value Engineering, Art to Part,

Quality, Cost and Productivity; (4) KNOWLEDGE AUTOMATION : Artificial Intelligence, Expert Systems and Knowledge-Based engineering; (5) ROBOTICS : Mechanical Design, Control, Trajectory Planning, Mobility, End Effectors, Maintenance, Sensory Devices, Work Cells, Applications, Testing and Standardization; (6) FACTORIES OF THE FUTURE : Planning of Automation, MAP/TOP, Management Organization, Accounting, Plant Design, Informative Systems, Productivity issues & Concurrent Engineering/Simultaneous Engineering, and Ergonomic aspects; (7) COMPUTER CONTROL OF PROCESSING : Plant Process Design, P&I Systems, CAD of Power Systems, Electric Drives, VLSI Systems, Control Systems and Applications of CAD/CAM in Textile, Paper and Printing Technology; (8) PROGRESS OF AUTOMATION : CAD/CAM in various countries and policy issues; and (9) EDUCATION AND TRAINING : Role of Universities, professional organisations and international bodies.

Further details with regard to participation may be obtained from Prof. K K. Pujara, Executive Chairman 'INCARF 1993' c/o Mechanical Engineering Department, Indian Institute of Technology, Hauz Khas, New Delhi 110 016.

## Community Nutrition Programme

A course of special interest to people interested in running their own commercial food establishments (such as Canteen and packed lunch production units) and for women who want to make a career in community nutrition programmes, is being offered by the Indira Gandhi National Open University (IGNOU).



This course which is a part of Bachelor's degree programme is oriented towards planning of adequate diets for individuals of different age groups.

Other aspects covered by the course are effective utilization of food resources, identification of Nutrition related disorders, Nutrition programmes and assessment of their relevance and impact.

A novel feature of the Course is the practical kit; it includes standard measures for weight and volume (measuring glass, cups and spoons) for helping people to work out the amounts they need to include in their diets.

The entire package-print materials, audio/video programmes can be purchased from the University by people who do not wish to enrol as students but are interested in this area, by December 1991.

### **Nehru Fellowships**

The Jawaharlal Nehru Memorial Fund announced the award of Jawaharlal Nehru fellowships to Professor S.K. Sinha and Dr Triloki Nath Khoshoo.

The award carries a stipend of Rs. 4,500 per month for two years and a contingency grant of Rs. 15,000 per year.

Professor S.K. Sinha (57 years) is one of the most outstanding agricultural scientists of the country and is the leader of the national research programme relating to climate change and food security.

Professor Sinha is a fellow of Indian Science Academy, Indian Academy of Sciences, National Academy of Sciences and Indian Society of Genetics and Plant Breeding.

Professor Sinha has been awarded the fellowship to work on the

project "impact of change of climate on agriculture—the Indian scenario."

Dr. Triloki Nath Khoshoo (64 years) a biological scientist and a former secretary to Government of India, Department of Environment is associated with the Tata Energy Research Institute, New Delhi.

Dr Khoshoo has been awarded Jawaharlal Nehru fellowship to work on the project "biomass energy."

With this announcement, Jawaharlal Nehru Memorial Fund has so far awarded 104 fellowships.

### **IGNOU Introduces Spot Admission**

Indira Gandhi National Open University (IGNOU) has introduced the scheme of 'Spot Admission' as a part of its decentralisation programme.

As per this scheme, the Regional Centres of IGNOU (at Ahmeda-

bad, Bangalore, Bhopal, Bhubaneswar, Calcutta, Cochin, Hyderabad, Jaipur, Karnal, Lucknow, Madras, Delhi, Patna, Pune, Shillong & Shimla) shall now, virtually, function as IGNOU of that Region. These Regional Centres, which coordinate the functioning of 170 Study Centres in India, shall also look after issuing hall tickets to candidates of all such programmes wherein admission is through an entrance test. For other programmes which do not have an entrance test, the Regional Directors shall also issue offer of Admission to selected candidates, on behalf of Registrar (Admissions).

This decentralisation activity, i.e. carrying administration nearer to the students, is expected to facilitate quick admission of students seeking admission to academic programmes commencing from Jan.'92. Earlier, the headquarters of IGNOU, at Delhi, processed all the applications and issued hall tickets & offers of admission for various programmes.

## **News from Agril. Universities**

### **Workshop on Transfer of Technology**

Dr. C. Prasad, Deputy Director General (Agric.Extension), Indian Council of Agricultural Research recently inaugurated the 3-day workshop on Transfer of Technology at Haryana Agricultural University (HAU). Speaking on the occasion, Dr. Prasad said that along with teaching, research and extension components, training should also be made compulsory component of agricultural universities. Emphasising the need of organising international training on transfer of technology, Dr. Prasad said that HAU with all its excellent infrastructure could take initiative for

organisation of this training.

Dr. M.S. Kairon, Director of Extension Education, HAU highlighted the different activities taken up by the university for the extension of technology to the grassroot level. He said that apart from regular activities the university organised recently for the first time workshops on Horticulture and Agro-forestry. Organisation of technical central exhibition by the constituent colleges of the university, finalisation of Package of Practices in the disciplines of Animal Sciences and Home Sciences, upgradation of all



KGKs into KVKs, transfer of Nilokheri Extension Institute to HAU and popularising of farm magazine by including question-answer sessions were some of the new steps which would go a long way in quick and grassroot level extension of the latest technology, added Dr. Kairon.

Apart from the HAU scientists, scientists working in all the KGKs and KVKs of Haryana participated in workshop at which the work done in extension front during 1990-91 was reviewed and strategy to be implemented in future finalised.

### Need Based Agricultural Research

A four-day Joint Agresco Meet of Agricultural Universities of Maharashtra State was recently inaugurated by Hon. Nanabhau Embadwar, Vice-President of Maharashtra Council of Agril. Education and Research (MCAER) Pune. The meeting was attended by Dr.S.K. Dorge, Vice-Chancellor Mahatma Phule Krishi Vidyapith, Rahuri, Dr. Vedprakash Patil, Vice-Chancellor, Marathwada Krishi Vidyapeeth, Parbhani, Dr. Prabhakar Amin, Vice-Chancellor, Punjabrao Agril. University, Akola, Dr. Shrirang Kadrekar, Vice-Chancellor Konkan Krishi Vidyapeeth, Dapoli.

In his inaugural address, Shri Embadwar stressed the need to solve the problems of unemployment and poverty, which would be helpful in decreasing the migration of rural people to urban areas. He also stressed need based agril. research strategy be adopted to help increase the socio economic status of farmers who were dependent mainly on agriculture. The research, he said, should be carried out by considering their genuine problems and should provide them all the necessary infra-structural facilities. In view of this, the scien-

tists should prepare appropriate plans of research in agriculture, he suggested. He called upon the scientists to evolve low cost technology so that the poor and marginal farmers could be benefited.

Dr.S.K. Dorge, Vice-chancellor, MPKV, Rahuri reviewed the progress of research work being undertaken in the universities and said that in future the research work would be based on the current needs of the farmers. Special attention would be given on water management, agro-forestry, dryland Agriculture, water shed development etc.

### KKV Convocation

Shri Mohan Dharia, former Deputy Chairman, Planning Commission, delivered the convocation address at the Konkan Krishi Vidyapeeth, Dapoli. In his address, Shri Dharia mentioned that India had made an outstanding progress in the field of agriculture during the last 40 years as was evidenced by a record foodgrain production of 170.65 million tonnes in 1989-90 as against 50.82 million tonnes in 1950-51. He, however, pointed out that our self-sufficiency in foodgrains might turn out to be an illusion if we increased the purchasing power of the common man. "Illiteracy, uncontrolled population increase, deforestation, growing unemployment" were some of the problems to which the graduating students of today should pay attention, he said adding that agricultural research should be reoriented with a pro-poor bias. Shri Dharia expressed immense satisfaction at the outstanding progress the Konkan Krishi Vidyapeeth had made during the last two decades or so, particularly in mango and cashewnut research and hoped that this University would lead the country particularly in the field of rainfed horticulture.

Dr. Shrirang Kadrekar, Vice-Chancellor of the University pres-

ented a report of the work done by the University in the area of teaching, research and extension education in the faculty of agriculture, faculty of Veterinary Science and faculty of Fisheries. He said that the research work conducted by the University on the use of 'paclobutrazol' in inducing early and regular bearing of alphonso mango was the most significant piece of research work during the last three years. Back-crossing of 'Ratna', a variety of mango developed by the KKV, with Alphonso, one of the parents high breeding variety, had shown extremely useful results and may culminate into the development of a yet another promising variety of mango, he added.

At this convocation, 3 students received Ph.D. degree in Veterinary Science, 74 students received Master's degree in Agriculture and Veterinary Science and 165 students received Bachelor's degree in Agriculture, Horticulture, Forestry, Veterinary Science and Fisheries.

### Breakthrough in Goat Research

The scientists of Haryana Agricultural University (HAU) have achieved a breakthrough in goat research by producing goat embryo from slaughter house waste. For the first time in India a team of scientists comprising Dr. M.N.Razdan, Mr. Prem Singh and Dr.O.P.Dhand of the Department of Animal Production Physiology, College of Animal Sciences achieved goat embryo production outside the body by fertilizing goat eggs in petri-dishes in the laboratory. According to Dr.Razdan, the immatured eggs were extracted from ovaries from slaughter house waste. The ovaries, collected soon after the slaughter of goats, were washed with an aseptic solution and brought to the laboratory where immature ova(eggs) were aspirated from them using an ordinary syringe fitted with a thin needle. These eggs, which exist in the ovary in an immature state nor-



mally, were placed in a petri-dish containing a suitable maturation medium and were incubated for 24 hours in a special carbon dioxide incubator at 37°C. At the end of the incubation period, the eggs by then matured, were examined under a special stereoscopic microscope and good and sound matured eggs were further processed.

Highlighting the advantages of this technique, Dr. Razdan said that the in vitro technique has a very promising future and opens up a flood gate of possibilities for increasing goat production to meet the increasing demand for goat meat and milk in India. The whole

exercise has been done completely outside the body of the egg donor (in vitro). The material was collected from the tissues which go waste after the slaughter of the goats. It is, therefore, a very useful method to resurrect what otherwise goes as slaughter house waste. Added advantage of this technique is that a large number of eggs can be collected for processing, unlike in the case of obtaining embryos from intact animals where the number of embryos harvested at each occasion is limited. Thus, the technique of in vitro maturation and fertilization of goat eggs for obtaining embryos in large number for embryo transfer has opened new vistas.

ment and Regional Planning, Europe, South Asia, Indo-China, Gulf, Latin America, SARRC and Central Asia.

The Area Studies Programme is designed to undertake indepth studies relating to various aspects of different countries and regions of the world for training scholars for the specialised studies on problems, language, culture and develop interdisciplinary research and teaching.

## News from UGC

### Central Varsities' Linkages With SUs

The University Grants Commission (UGC) has suggested to the Central Universities to earmark Rs.10.00 lakhs (each) for evolving interaction with the faculties of the State Universities and Colleges in the respective regions in their teaching and research programmes so that the facilities of the Central Universities become meaningfully available to them during the Eighth Plan period. The UGC has recently completed an exercise for 8th Plan Development Schemes of the nine Central Universities including University of Hyderabad (Hyderabad), Pondicherry University (Pondicherry), Visva Bharati (Santiniketan), Jamia Millia Islamia (New Delhi), Jawaharlal Nehru University (New Delhi), University of Delhi (Delhi), Aligarh Muslim University (Aligarh), Banaras Hindu University (Varanasi), and North Eastern Hill University (Shillong).

The Central Universities will systematically review all of their programmes to restructure and reorganise as many of them as feasible with a view to ensure their continued

relevance and help in achieving the goals of national development. The universities have also been suggested to prepare perspective plans for the next 10 years. While retaining their distinct features, the Central Universities would develop thrust to strengthen the interdisciplinary character of teaching and research courses.

The Commission has further desired that in developing hostels, the Central Universities should consider to update the existing facilities to effect saving on the overheads and to improve them.

### Area Study Programmes

The University Grants Commission (UGC) has identified 13 universities for promotion of Canadian Studies under its Area Study Programme. The Commission is already providing financial assistance to 14 universities for running 16 Centres of Area Studies for West Asia, Nepal, China and Japan, East Asia, Africa, Soviet, South and South East Asia, Urban Develop-

## News from Abroad

### TWAS History of Science Prize

The Third World Academy of Sciences (TWAS) offers a prize for the best research essay highlighting the major achievements of a Third World scientist prior to the 20th Century, whose work has not been hitherto clearly recognized. The essay should indicate the impact of the scientist's contributions on his/her community and, where relevant, establish their influence on modern scientific thought.

Essays should preferably have a length of about 20,000 - 50,000 words and must be written in the English language.

The competition for the third TWAS History of Science Prize is open to interested scholars both from the Third World and elsewhere, who should submit their essays to the Executive Secretary of the Third World Academy of Sciences no later than 1 March 1992.

All essays satisfying the above conditions will be judged by an International Committee of experts in the History of Science appointed by the Third World Academy of Sciences.

The prize will consist of a medal and US\$ 10,000, and will be awarded in the autumn of the year following the award. The Third World Academy of Sciences will arrange for the prize-winning essay to be published in book form.

For further details, contact The Third World Academy of Sciences, c/o International Centre for Theoretical Physics (ICTP), P.O. Box 586, 34136, Trieste, Italy.



## A String of Conclusions

P. V. Indiresan\*

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**Biman Sen : Development, Technology, Education and Culture.**  
Delhi, Ajanta Publications, 1990. viii + 205p. Rs.175.00

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Biman Sen has had a rich and varied innings in the Education Ministry of the Government of India. This book "Development, Technology, Education and Culture" contains a series of articles which reflect his thinking on issues pertaining mainly to technical education and also to principles of planning in general. In addition, there are two articles on technological topics, one on energy and the other — rather unusually — on Antarctica. Culture is also represented by two articles, one on the role of English and the other on the interrelation between technology and culture.

The five articles on the theme of technical education deal with (a) economic development and technical education in developing countries, (b) technical education for 2000 A.D., (c) planning for technical education for future development, (d) development, technology and education and (e) philosophy of technicians education. There are, in addition, two articles on general education, (a) education for one world, and (b) education and India in the 21st century.

There are four general purpose articles on development, (a) planning and poverty, (b) strategies of development in India, (c) Indian

development, and (d) human settlement in India in the 21st century.

As these titles indicate, the author is concerned about the interplay between education and development — development in the longer perspective.

### Ideas of Development

In the author's own words :

Development is a natural process involving all human activities and then organic relationship with nature, which form an integrated and inter-related complete system. Planning is a scientific process to hasten development in a balanced way, as development of any activity, faster or slower has positive or negative influence on others, it may sometime affect adversely the entire eco-system. Unfortunately, India's planning, has so far not obeyed the principle of integrated planning, but it is an aggregation of a large number of isolated projects which has led to top-sided (lop-sided?) development.

So much for his concept and criticism of India's development. He has his own prescriptions, some of which are :

(a) steel, cement, machine tool and power etc., should be made targets of development.

(b) the door should be opened to private sector for investment freely without restriction.

(c) land reforms should aim at consolidation of land holdings through cooperatives.

(d) roads and communication systems to be rapidly improved.

(e) for need based programs ....it is not fund that is needed (to the community), but ... the assistance of managerial skills and other services.

(f) no use of multiplying primary schools system, as is being done at present ....with one teacher taking care of children of varying age groups simultaneously.

(g) what (the poor) need is food, shelter and clothes which cannot be provided without rapid economic growth. Then what is the use of investing a large sum of money for adult education? .. Adult education will come as a by product of economic development, not in isolation.

All these are controversial concepts, and this book is controversial if nothing else. The problem is, none of these ideas has been worked out in depth. Not for Sen the scholar's style of thesis, anti-thesis and synthesis. Instead, his manner is authoritarian; his book is a statement of a string of conclusions—which are no doubt the culmination of decades of careful thought based on years of experience in the front rank of administration—without the backing of detailed analysis. The author's preference to state his considered views without explaining the thought process by which he arrived at such views, makes the reviewer's task a daunting one — the reviewer himself has to supply the arguments either way.

Each one of the seven prescriptions (there are many more) have been said before. What perhaps we may debate is the utility of these prescriptions as an *integrated package*. Let us accept the author's developmental objectives which, in the parlance of Maslow's hierarchy of Needs<sup>1</sup> may be described as: the supply of physical needs (food and clothing), security needs (shelter) and employment which may be described as a status good.

Sen accepts the time worn hypo-

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\*Centre for Applied Research in Electronics, IIT Delhi.



thesis that heavy industries like steel and cement will be the basis of economic development. At the same time he is perceptive enough to state: "with the economic growth, if such growth is to be sustained, a country has to look for employment generation in some other sectors, other than agricultural or industrial sectors." He gives some figures in substantiation of this statement. The annual reports from the World Bank, *The World Development Report* provide much more statistical support to his contention. It is a pity he has not enlarged on this theme, because this is precisely the area where our planners and administrators have the most alarming blind spots — all evidence to the contrary, they still feel that agriculture and industry will fill the employment gap.

India needs to generate 35 million new jobs over the next five years. Planners and politicians have evidently not the faintest notion how that may be achieved. In essence, they are sweeping the problem under the carpet, hoping against hope that somehow the problem will get solved by itself. In fact, it might be said that our decision makers are ostrich like hiding their eyes from such facts as, (a) the necessity to plan for a DECREASE in agricultural employment<sup>2</sup>; (b) industry cannot absorb the increasing work force, on the contrary, industrial employment tends to remain static. (Surprising as it may appear, the share of industry in an economy is virtually constant at around 35 percent at *all* levels of development — from the least developed to the most advanced<sup>3</sup>).

Two different kinds of employment are associated with every kind of product: (a) labour required for manufacture, and (b) labour required to maintain the same. In general, the latter is much larger —

it requires more people to *maintain* a scooter, or a TV set or a house than to *make* any one of them. Further, when labour productivity increases, products become cheaper, and therefore, more people can buy them. That is, higher labour productivity no doubt curtails employment on the shop floor, but the loss is more than made up by the increased demand for the services required to maintain the larger number of products sold thereby. Or, there is a net gain in employment when labour is minimized on the shop floor, resulting lower prices and larger sales of industrial products.

Sen is therefore correct when he in a forthright manner dismisses the fears that unemployment will result from the application of modern technology. He says: "a general view seems to be that automation and modernization will produce surplus labour force. Therefore, labour-intensive development projects should be encouraged, forgetting in the modern world, *the fourth dimension, time, is most important.* (Italics original).

Here is an important argument which is generally ignored. A ten percent increase becomes a 10% growth rate only when completed in one year; it will be a 5% growth rate when completed in two years and merely a 2% rate if dragged on for five years. As every sector cannot increase uniformly, and it is difficult to forecast which one will grow fast and which will not, *every* sector, every economic unit, should have the *freedom* to grow as much as it can. Unfortunately, this is precisely the argument which planners reject: they pre-suppose that every activity will move in perfect synchronism and can be planned to do so. The planner does not accept the principle that one might make up on the roundabouts what one loses on the swings. He argues — justifiably in

theory — that for highest performance, every activity should be exactly tuned. Unfortunately, this is like saying that if ten birds are sitting on a tree, nine will remain when one is knocked down.

A planner can (and does) penalize those who go too fast; but he is quite helpless against those who proceed slower than planned. As a result, *inevitably*, plan accomplishments can only be less than hoped for. That is why a plan may be guideline, but not a prescription.

Sen's prescriptions are an unusual mix of socialist dogma and western liberalism. His advocacy of farming cooperatives and emphasis on heavy industry will cheer the dogmatic left establishment that still holds sway in our country. At the same time, he is a votary of private enterprise. If left to private enterprise, cement and steel may or may not be given preference by investors. If these should still be the base for industrialization, government should take on itself the responsibility to maintain them at the desired level even if that is not profitable, and we will be back to where we are, with government sticking to the "commanding heights" of the economy! It might be argued that the government will restrict itself to the residue of what must be done and what private enterprise will not do. On the other hand, once government steps in, Parkinson's Law will take over; there will be no way of restricting government intervention.

### Issues in Education

As should be expected from the author's background, the articles on education (his concentration is on technical education) are extensive. He is concerned that the future is often ignored in the planning of education, which is particularly unfortunate because it takes decades for the imprint of education to take



effect in a practical sense. As he says:

....planning of technical education has been based ....the result of the market researches of employment prevailing at the time and it has been designed mainly to meet short-term need ignoring completely the long-term benefit.....

Here is a criticism which is applicable to all educational planning and not for technical education alone. Sen raises also a basic dilemma facing education planners:

The greatest challenge facing planners of technical education is the dichotomy facing it — on one side there is the need of specialized technical manpower and on the other, there is a strong demand for inter-disciplinary personnel to work in sophisticated areas of technology .... supplying manpower to maintain existing industry and at the same time for ... sophisticated sectors of the economy.

Sen is critical of manpower planning in India, but does not pursue the discussion to its logical conclusion. Manpower planning in India is still in an ad hoc stage; it cannot be described as being anywhere close to being scientific or accurate. A glaring instance is in the field of Computer Science where probably ninety percent of the market demand has been met by unplanned teaching shops which have mushroomed all over the country. In contrast, the planned and organized sector of education has been slow in anticipating the spurt in demand for computer engineers and technicians. Though not to the same extent, in other fields too, there are glaring mismatches between skills available and skills needed; millions are dissatisfied with their lot, that their talents are being under-utilized, and yet, every employer complains of paucity of trained manpower.

This mismatch problem has become acute because we have adopted the extravagant style of

American education with high emphasis on university education, whereas what the country needs more is vocational training of the type given in Germany. Sen prefers the East European model of vocational education, but the country may benefit more if it opts for the more successful German model. Essentially, this involves apprenticeships starting at a very young age, but accompanied by part time education as a supplement to the skills acquire under a master craftsman. Sen's views are similar; he would involve demobbed servicemen, agricultural extension officials and the like in training and educational programmes.

Unfortunately, our penchant for "socialism" leads to a peculiar brand of elitism : an excess of colleges, where more and more unemployable graduates are produced, are supported at the expense of the lower levels of education needed by the poor. Considering the state of the economy, there is no doubt we are producing many more graduates than we need, and far fewer technicians and craftsmen than we require. A well known instance of this type is the ratio of technicians to engineers, and in the ratio of nurses to doctors. In either case we have more of the higher qualified people, whereas their number should only be about a third of the supporting personnel. If there are too few nurses and technicians, relatively, the number of craftsmen is even less satisfactory. This is disquieting news for those in the university system, because it implies that university education has been over supported (at any rate in numbers); and hence, resources should be diverted in future to lower levels of education.

#### Relevance of Primary Education

Few will agree with Sen when he relegates adult education (and to a

certain extent even primary education) to a secondary role. He considers them to be a *consequence* of development as opposed to being the *progenitors* of the same. No doubt a chicken and egg problem operates in this situation; yet, the current wisdom is, education is more an input of development than a consequence.

It would be interesting to contrast Sen's views from the authoritative stand taken by UNDP. Since last year, the UNDP has been advocating what it calls the Human Development Index<sup>4</sup> which is a composite of (a) per capita income including its distribution, (b) years of schooling, and (c) life expectation. The UNDP makes the interesting comment, "Just as economic growth is necessary for human development, human development is critical to economic growth". It goes on to add :

"Although the first priority in education should be a well organized system of basic schooling, the primary level accounts for less than half the total education expenditure in every region. (In India it is 41.2%)..... This is a wasted opportunity. Not only is primary education of fundamental importance in itself, it is also a good way to direct resources more specifically towards the poor...."

#### Merit and Medium of Instruction

Sen comes out firmly on the side of merit based education at the higher levels, and is fully aware of the shackles he will raise by such a posture.

Technical and science education (including medical science) are responsible for training key manpower required for economic and industrial development on which entire future of the country depends. Therefore, the country cannot afford to dilute the standard of such education to accommodate any special category of people in the name of equality of opportunity. Equity and excellence cannot go hand in hand...admission to higher education and research specially in technical



and science education should be based only on merit.

Sen favours English as the medium of instruction and the use of Roman script. He asks: "Do the present or the dying generation have the moral right to decide the fate of future generations on the basis of their own limited experience or feelings without reference to shape of things to come?" He gives first priority to the learning of languages, then to mathematics and science with emphasis on the study of history of science and technology.

Sen's views on these two issues are unequivocal; one may sympathize with him in both cases, but neither view is likely to be accepted by policy makers in India. It can be argued that at least professional education, which accounts for less than one percent of the total, may be based on merit. On the other hand, it is precisely in these specialized areas that political pressure is highest. Likewise, from a purely communication efficiency point of view, *phonetically organized* Roman script is superior to Indian scripts. The Roman script, essentially consists of various combinations of a stroke and a part of a circle. Indian scripts are far more complex; more difficult to master. Even the complaint that the Roman script cannot represent all the sounds of Indian languages is not true; with suitable modifications, whatever gaps exist may be filled. However, the choice of script is not a matter of communication efficiency, but one of prestige, of tribal identity.

Interestingly enough, the UNDP report gives some startlingly pragmatic advice in handling issues of this nature — compensate powerful groups. Merit based professional education is unlikely to be accepted unless powerful political classes are offered suitable sweeteners. How such sweeteners may be devised in

the present environment where emotion supersedes logic, is a moot question.

### Design of Human Settlements

Sen's views on the design of human settlements more or less follow current practice (as distinct from what people profess). In his opinion:

The present system of empirical planning will not serve the purpose of future need, it will only prolong the agency (sic) and distribute poverty to larger population. It will have to abandon the utopia of two dimensional rural development, and prepare for deep urbanization.

Here Sen has fallen into a common error. Strictly speaking, the above is not necessary. Even if as much as 200 square meters of space is residential space allocated per family (which, incidentally, is eight times what the Ministry of Urban Development uses as a standard), barely three percent of available land area will be needed to house the entire Indian population. It is precisely because we have adopted high rise, high density housing are we suffering from the current urban malaise with ever increasing numbers condemned to live in inhuman slums. Urbanization is necessary, but it need not be in the stark terms suggested by Sen<sup>5</sup>.

It is difficult to classify this book: it is not a textbook, nor is it a scholar's treatise; neither is it a historical record. It is sadly full of printing mistakes — dozens of them in every page. There is no bibliography and no references. It is full of adjurations which we are expected to accept more or less on faith. Nevertheless, it is useful to read it in as much as it reflects the considered opinion of one of our most experienced administrators of education. It might be worth the effort for someone to investigate why such an experienced person has such pron-

ounced views so much at variance with the current intellectual establishment.

### References

1. Maslow, A., (1954), *Motivation and Personality*, New York, Harper.
2. P. V. Indiresan, (1990), *Managing Development: Decentralization, Geographical Socialism and Urban Replication*, New Delhi, SAGE.
3. World Bank, (1990). *World Development Report*, New York, Oxford University Press.
- 4 United Nations Development Programme, (1991), *Human Development Report 1991*, New York, Oxford University Press.
5. P. V. Indiresan, *ibid*.

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## We Congratulate....

1. Prof. R. C. Mehrotra who has taken over as Vice-Chancellor of the University of Allahabad, Allahabad.
  2. Dr. Rameshwar Sharma who has been appointed Vice-Chancellor of the University of Rajasthan, Jaipur.
  3. Dr. Ganesh Devi, Reader in Commonwealth Literature in the Department of English, M. S. University of Baroda, who has been elected to the Symons Fellowship of the Association of Commonwealth Universities for 1991.
  4. Prof. Susnighda, Rector (Pro-Vice-Chancellor), Jawaharlal Nehru University, who has been conferred Doctorate (Honoris Causa) by the University of Buenos Aires for his academic excellence and for publications and work of Spanish language in India.
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Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on Higher Education. Among the topics prominently represented are Educational Sociology, Educational Planning, Educational Administration, Teaching & Teachers' Training, Examinations, Economics of Education and Country Studies. Developing fields of Adult Education, Continuing Education and Distance Education, and Educational Technology are also well stocked. The library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of Higher Education. Files of Annual Reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to the AIU Library'.

The Library also receives about a 100 periodical titles on Higher Education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research Scholars and students of education are welcome to use these resources. The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

## THESES OF THE MONTH

### A list of Doctoral theses accepted by Indian Universities

#### HUMANITIES

##### Philosophy

1. Bhattacharya, Vandana. **The concept of man and society in contemporary Indian Philosophy.** Vikram. Dr P K Bhattacharya, Madhvi, Dushehra Maidan, Ujjain.

2. Dash, Kailash Chandra. **Tatvaprabhabalidrisha vakyarthviloknam.** Jagannath. Dr Keshab Chandra Dash, Reader, Post Graduate Department of Philosophy, Shri Jagannath Sanskrit Vishwavidyalaya, Puri.

3. Mishra, Alaka Sundari. **Devantedhu Ishwar tatvam samalochnatmakam adhyayanam.** Jagannath. Dr Nilakantha Pati, Lecturer, Post Graduate Department of Sarvadarshan, Shri Jagannath Sanskrit Vishwavidyalaya, Puri.

4. Mishra, Saroj Kumar. **Aghor mat: Siddhant, sadhna aur sampradaya.** Ravishankar.

5. Pandey, Ghanshyam. **Sankhya evam Vedanta darshan: Tulnatmak adhyayan.** BHU. Dr Krishna Kanta Sharma.

6. Sarkar, Swapna. **Some problems concerning the nature of human knowledge.** Calcutta.

7. Tikadar, Pavitra Mohan. **Mahaprabhu Shri Chaitnya ke bhakti darshan ka samalochnatmak adhyayan.** Ravishankar. Dr L P Mishra, Department of Philosophy, Ravishankar University, Raipur.

##### Fine Arts

##### Sculpture

1. Giri, Karuna. **Modhera ka Surya Mandir.** BHU. Dr M N P

Tiwari, Reader, Department of History of Art, Banaras Hindu University, Varanasi.

2. Mishra, Neerja. **Bhuvaneshwar ke mandiron ke murtiyan; Ek sanskritik adhyayan.** BHU. Dr Kamal Giri, Reader, Department of History of Art, Banaras Hindu University, Varanasi.

3. Singh, Vijai Prakash. **Kashi ke mandir: Murtiparak adhyayan.** BHU. Dr Kamal Giri, Reader, Department of History of Art, Banaras Hindu University, Varanasi.

##### Drawing & Painting

1. Singh, Kavita Kumari. **Strahvin shatabdi ke Mughal chitra shaily.** BHU. Prof Anand Krishna.

##### Language & Literature

##### English

1. Ahuja, Amita. **William Inge: Redemption through sex theme in his plays.** BHU. Dr J B Misra, Reader, Department of English, Banaras Hindu University, Varanasi.

2. Canal, Leela. **Hemingway; Revolt and affirmation.** Bundelkhand. Dr V N Pandey, Bundelkhand College, Jhansi.

3. Charak, Posh. **The dialectics of the mind and art of Flannery O'Connor.** Jammu. Dr D K Rampal, Prof and Head, Department of English, University of Jammu, Jammu.

4. Chaturvedi, Nagesh. **The novels of Salman Rushdie: A critical study.** BHU. Prof O P Mathur, Department of English, Banaras Hindu University, Varanasi.

5. Dubey, Krishna Chandra. **India in the novels of Paul Scott.**



BHU. Dr J B Misra, Reader, Department of English, Banaras Hindu University, Varanasi.

6. Gupta, Sangam Lal. D H Lawrence: A study of his tales. BHU. Dr J B Misra, Reader, Department of English, Banaras Hindu University, Varanasi.

7. Mathias, Louiza Maria. A course in written English for under graduate students. Bangalore. Prof L S Seshagiri Rao, Department of English, Bangalore University, Bangalore.

8. Sharma, Ved Parkash. Techniques of characterization in Angus Wilson's novels. HP.

9. Suresh Kumar, A V. Non-Indian characters, Anglo-American and European, in the novels of Mulk Raj Anand, Raja Rao, R K Narayan, Balachandra Rajan, Kamala Markandaya, Anita Desai. Osmania.

#### Sanskrit

1. Chandratre, Smita Surendra. Sanskrit natakon mein aharya abhinaya. H S Gour. Dr Kusum Bhuria, Department of Sanskrit, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

2. Mishra, Sant Prasad. Kavyadarsha ke alok mein Agnipuran ke kavyashastriya tatva ka tulnatmak sameekshan. BHU. Dr R P Dwivedi, Reader, Department of Sanskrit, Banaras Hindu University, Varanasi.

3. Pandey, Radha Kant. Panini Ashtadhyayi. BHU. Dr H S Shukla.

4. Pant, Deepa. Natyashastriya parampara mein Shing Bhoopal ka yogdan: Ramarna va Sudhakar ke sandarbh mein. HP.

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9. Tripathi, Purushaottam Dutt. Ayurveda ke pramkh granthon mein atmatatva evam moksha: Charku Sushrut evam Banbhatt ke vishesh sandarbh mein. Durgawati. Dr M L Purohit, Department of Sanskrit, Rani Durgawati Vishwavidyalaya, Jabalpur.

10. Yadava, Usha. Tattiriya pratisakhya evam Vyas-shiksha ka tulnatmak adhyayan. BHU. Dr (Miss) Vimala Karnatak, Reader, Department of Sanskrit, Mahila Mahavidyalaya, Banaras Hindu University, Varanasi.

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2. Rehearsal : at 10.00 a.m. on 8th Aug., 1991 at Students Activities Centre.
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**Pay Scale:** Rs.3700-125-4700-150-5000 (Rs.6305/-); **Qualifications:** Ist Class B.E. in Electronics/First Class M.Sc in Physics with Electronics with 12 years experience OR M.Tech/M.E. in Electronics with original work as evidenced by patents or publications and evidence of leadership with about 10 years of R&D experience.

**2. Post No.1/2 : Scientist-C (Three Posts)**

**Pay Scale:** Rs.3000-100-3500-125-4500 (Rs.5150/-); **Qualifications:** Ist Class B.E. in Electronics with 6 years experience/M.E. in Electronics with 4 years experience. Minimum years of experience relaxable only in exceptional cases.

**3. Post No.1/3 : Sr. Translator (Hindi) (One Post)**

**Pay Scale:** Rs.1640-60-2600-EB-75-2900 (Rs.2946/-); For Qualifications and job Requirement please refer to our Advt No.2/91 published in the Employment News/Rozgar Samachar dt.3/8/1991.

**Age Limit:** Maximum 30 years as on 1.1.1991 (relaxable upto 5 years in case of SC/ST candidate). The selection will be made on the basis of examination and interview to this post.

## PART II

**4. Post No.2/1 Scientist-B (One Post) (Reserved for Scheduled Caste)**

**Pay Scale:** Rs.2200-75-280

**M.Tech/M.E. in Electronics EB-100-4000 (Rs.3792/-);**

**Qualifications:** Ist Class B.E. in Electronics OR

**5. Post No.2/2 Technical Assistant Gd.-VIII (Four Posts) (Reserved for Scheduled Tribe)**

**Pay Scale:** Rs.1400-40-1800-EB-50-2300 (Rs.2384/-); **Qualifications:** Diploma in Electronics of 3 years duration.

The number of posts may vary.

Last date for receipt of application in the prescribed form complete in all respects is 16.9.1991.

For details, please refer to our Advt No.2/91 published in the Employment News/Rozgar Samachar dated 3.8.1991.



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## IN THIS ISSUE

Management of Affiliated Colleges	3
Increasing the Efficiency and Effectiveness of Teachers in Higher Education	12
User Education : Universities and Research Centres	14
<b>Convocation</b>	
Konkan Krishi Vidyapeeth, Dapoli	17
<b>Campus News</b>	
Centre for Atmospheric Sciences	21
Punjabi Varsity to Introduce New Courses	22
Openings at Manipur University	22
<b>Agriculture</b>	
New Projects for HPKV	22
<b>News from UGC</b>	
Countrywide Classroom Programme	23
Fellowships for Afro-Asian Scholars	24
<b>News from Abroad</b>	
ASCEND-21	24
Smith Report on Canadian Higher Education	25
UN Project on Reducing Coal Emissions	26
Research in Progress	29
Theses of the Month	32
Classified Advertisements	38

Opinions expressed in the articles  
are those of the contributors and do  
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the Association.

Editor:  
SUTINDER SINGH

# UGC Coaching Scheme for Minorities

## A Plea for Reordering of Priorities

S. Abdul Kareem\*

The rights given to the minorities in our Constitution are the cultural and educational rights (Art. 29 and Art. 30). Rightly does the National Policy on Education 1986 address itself to paying greater attention to the educational and cultural needs of the minority groups (NPE: 4.8) so as to bring them on level of parity with the other major groups. 'The UGC Centres of coaching the weaker sections among educationally backward minority communities' are aimed at sharpening the competitive cutting edge of the disadvantaged groups in terms of jobs and higher professional education through entrance examinations besides enhancing the employability of the candidates through training in Typewriting, Shorthand writing and Secretarial Practice.

The guidelines circulated also cater to organising the pre-coaching preparatory remedial classes with funds upto 15% of the year's allocation. These sessions are intended to enhance the competence and performance level of the identified bright students of minority communities accentuating their potential for competition. Obviously these sessions are not for mediocres or sub-standard students. In addition to creating an awareness of the job opportunities in various sectors, they should promote the motivational effort.

While the Schemes of Coaching for specific examinations give results in terms of percentage of passes, albeit small, qualifying for specific jobs, the preparatory remedial sessions are more rewarding as they provide the focus on avenues or areas the students need select and intensify their efforts to reach the desired goals. In the former, the net results are immediately quantified, while the preparatory schemes pave the way for future attainment which can only be quantified once they achieve their goals in terms of jobs. The disparities that are bound to exist in the case of minorities as a result of their having had mother tongue as the medium of instruction are sought to be ironed out when they enter higher education, where the mother tongue ceases to be the medium, compelling them to change over to either the regional or English medium for which they are not adequately equipped. A student from the minority group with an exposure to English for six years only (introduced at the V Standard) will have to fight an unequal battle with a student from the English medium whose familiarity with English including the Pre-Primary stage has been for a period of 2 + 10 years.

The hard logic of getting employment through competitive examinations at the first attempt is the privilege of a microscopic minority of the brilliant category while the general run of the mill type take umpteen chances to make their grading. Some times academic honours and distinction do not provide the edge over others in terms of competitions. The academically bright ones need orientation in the technique of facing a competitive

\*Principal, Anjuman-e-Islam's Nehru Arts, Science and Commerce College, Hubli - 580 020, Karnataka and Director, UGC Coaching Classes for Minorities, Nehru College, Hubli.



examination where time is of crucial nature. Schemes of coaching for finding jobs may not produce dramatic results. The outcome is marginal as the effort is peripheral. The sound strategy that bids fair to succeed is to make the scheme integral to the educational effort making it an ongoing phenomenon for fairly longer spells of two terms of six month each, one at the basic and the other at the advanced level.

The sense of handicap for the Urdu medium student is clearly perceptible not only in languages like English and the regional language but also in terms of attainment in Science and Mathematics for reasons of gross neglect coupled with lethargy and apathy of teachers in such schools, manned as they are from the same religious denomination. Students of Urdu medium schools suffer from segregation for want of a free mix up with students of heterogeneous communities. Their general awareness is on a very low key blunting the competitive edge.

Hence the minorities at the basic level of preparatory scheme need reinforcement in the following areas :

- i) Communicative Skills,
- ii) Computational and Mathematical ability,
- iii) the potential of sound reasoning, and
- iv) the general awareness.

The target groups that overcome these deficiencies at the basic level need strengthening in the following fields at the advanced level :

- i) Motivation,
- ii) Confidence generation,
- iii) Project Analysis, and
- iv) Current Analysis.

The whole endeavour is to drive the youth towards self-learning.

Schools should come centrestage to spearhead the activity during the impressionable period of adolescence to help choose a career which is more than finding a job. It is a race to be run, a course to be followed. People sometime get on a bus only to find that it is going in wrong direction. The same is true of careers. Vocational Guidance Bureaus and Information Cells can do a lot to help discover the avenues open and the talents needed. Psychological tests can fix up the mental age of prospective students and discover their intelligence quotient (IQ), though, of late psychometricians have expressed their distrust in aptitude and intelligence tests which normally have an urban slant and go

against the rural students. In fact, a kind of vocational maturity is a necessary concomitant of any educational venture opening out avenues of career opportunities. The link up between institutions and industry can broaden the base of the spectrum of opportunities.

The numbers that keep swelling at the Employment Exchanges underscore the absence of any manpower planning. Even it is worthwhile exercise for the institutions to find out what happens to its products when they enter the world of work. They can ill afford to ignore the demands of the user agencies. Hence institutions must organise motivational camps to sharpen

- i) the ability to think clearly;
- ii) the ability to make themselves understood;
- iii) the ability to become skilled listeners;
- iv) the ability to become skilled conversationalist; and
- v) the ability to acquire skill in writing.

Because of the socio-economic conditions, many of our alumni are not born into talking articulate families and there is the need to develop these skills diligently. One need possess clarity in thought and expression, analytical mind, conversational ability, mental alertness, assimilation and utilisation of acquired knowledge. These qualities can be attained through diligent application and practice.

The Centres can promote, in liaison with Small Industries Service Institutes (SISI), greater exposure to the avenues of entrepreneur development and assistance in terms of subsidy and relief available from accredited financial institutions. The development of production units for 'ancillaries' needed for big industrial houses is yet another potential 'avenue of employment generation. The Centres should conduct exhibitions to popularise self-employment schemes like SETWIN by Shri Khadar-Ali Khan of Hyderabad. They should have a symbiotic relationship with agencies like SSB, BSRB, RRB etc., and arrange periodic poster displays reaching out youth in the inaccessible nooks and corners of the country. The Board of Apprentice Training (BAT) should broadbase its field of activity by extending the orientation sessions to schools and colleges as they do in respect of Engineering Colleges and the ITIs.

It is imperative to widen the gamut of preparatory schemes of ongoing nature with a reordering of priorities facilitating a fair share of resources extending it from the present 15% to 40% of the annual allocation.

*(Contd. on page 20)*



# MANAGEMENT OF AFFILIATED COLLEGES

M. R. Rao\*

The university is a complex organisation system engaged in higher education. It consists of many inter-related units or subsystems. The colleges constitute one of the most significant subsystems of the university system. The number of colleges including university colleges have increased from 5,590 in 1984-85 to 6,912 in 1988-89. The number of affiliated colleges (Arts, Commerce and Sciences) have increased from 3,892 in 1984-85 to 4,591 in 1988-89. The importance of affiliated colleges in higher education may be seen from the fact that they account for 85 percent of undergraduate students, about 55 percent of postgraduate students, and as much as 14 to 15 percent of the research students.

The affiliated colleges as an operating subsystem interact with other subsystems within the university system. Further, each subsystem has certain goals, and each seeks to contribute to the system's overall objectives/goals and thus encouraging the inter-dependence between the subsystems. Each subsystem has its own boundary within the boundaries of the system. However, the affiliated colleges, as a subsystem, interact with other related systems of higher education in the environment. As such, the speciality of this subsystem is that it interacts with its environment independently for its input-output. Thus, this sub system is open system and constantly interacts with the environment for its import-conversion-export process.

In this paper, an attempt is made to examine the relationship between the university and the affiliated colleges in the past, the present and what should be the relationship in the future.

## Birth of Colleges and Universities

The rulers of East India Company feared western education might encourage growth of nationalism among Indian people and thus work against their own interests. Out of this fear, it adopted a policy of encouraging indigenous system of education and opened Calcutta Madrassah college in 1781 with the objective to encourage education in Persian and Arabic literature. Similarly, it opened the Banaras Sanskrit college at Banaras in 1791 to encourage spread of Sanskrit

learning.

The first breakthrough in the western system of education in the country came through the efforts of Raja Rammohun Roy and his friend David Hare. They founded the Hindu College on 20th January 1817 at college square at Calcutta. Its objective was to convert it into "the main channel by which real knowledge may be transferred from European sources to the intellect of Hindusthan". The East India Company again founded a second Sanskrit College in Calcutta in 1825. Raja Rammohun Roy protested against this on the ground that the Hindus should receive instruction in European languages and Science.

The Christian missionaries, with the intention of spreading christianity besides teaching of English and Western knowledge started establishing colleges all over the country: Elphinstone college was founded in 1834 at Bombay with the object to impart English education and thus prepare natives for public employment. Dr. William Miller founded Madras Christian College at Madras in 1837; Robert Noble founded a college at Masulipatnam in 1841; Stephen Hislop opened a college at Nagapur in 1844; and Church Missionary Society founded the St. John College at Agra in 1853 etc.etc.

There were a considerable number of English education colleges before the birth of modernising Universities in 1857. The first three universities at Calcutta, Bombay and Madras were established for the purpose of ascertaining, by means of examination, the persons who have acquired efficiency in different branches of literature, Science and Arts and of rewarding them with Academic Degrees. With the establishment of these three affiliating universities, there was a marked rise of affiliated colleges and its enrolment also showed a proportionate increase. The Government appointed Universities' Commission in 1902 to suggest measures to promote standards of university teaching and advancement of learning. The Commission recommended that universities should be teaching universities. Further it recommended that the affiliated colleges should be controlled and affiliation rules should be framed. It suggested that no institution shall be admitted to affiliation unless on the fullest information and that no institution once admitted be allowed to fall below the standards of efficiency required for affiliation and the Syndicate should

\*Dean of Collegiate Education, Andhra University,  
Waltair, Visakhapatnam - 530 003.



satisfy itself from time to time on this aspect. It also recommended that there should be a properly constituted Governing Body for each college.

Based on the recommendations of the Commission the Universities Act 1904 was framed which brought a change in the character of universities from purely affiliating into affiliating-cum-teaching. The Act empowered the Universities by making a provision for the instruction of students through appointment of university Professors and Lecturers and to do all acts which tend to the promotion of study and research. The Calcutta University was the first university in establishing its own teaching and research departments under the leadership of Sir Ashutosh Mukherji in 1910. The other two universities followed the same pattern at a later date. The Bombay University started the School of Economics and Sociology in 1919. The Madras University Act came into operation in 1923. The preamble of the Act stated: "to organise the University of Madras with a view to establishing a teaching and affiliating University and due control over the quality of the teaching given by Colleges which are affiliated to or approved by the University of Madras". From the above analysis, it seems that the colleges were the primary organisations in higher education system in India until the establishment of universities in 1857. After the opening of teaching and research departments in the universities the colleges became secondary organisations and the affiliating University as the primary organisation.

### Promotion of Colleges

The U.G.C. has defined college under Section 12A (b) as: "any institution, whether known as such or by any other name which provides for a course of study for obtaining any qualification from a University and which, in accordance with the rules and regulations of such university, is recognised as competent to provide for such course of study and present students undergoing such course of study for the examination for the award of such qualification". "Affiliated College" means a college affiliated within the University area affiliated to the University in accordance with the conditions prescribed. There are two conditions. One is that the location of college should be within the jurisdiction of the University and second is that it should be established according to conditions prescribed by the University.

The promoters of a private college present their case for affiliation to the University authorities. In the case of Government college the local public takes initiative and present its case to the State. The State in turn may ask the promoters of a college to get a feasibility report from the University. The need for the new college

either, private or Govt., is expected to be established on the basis of rational considerations such as the number of college seeking students produced by the Intermediate colleges operating in the area; the absence of an affiliated college in the area. The U.G.C. has also suggested, before granting affiliation to a new college, the University should keep in view the existing facilities/enrolments for undergraduate or post-graduate education in the concerned region/area/city and also examine whether the need can be served through non-formal/distance education channels or by strengthening and expanding the existing institutions. In practice the promotion of several new colleges appear to be based not solely on the real need for them but sometimes on non-academic considerations such as demonstration of political power, caste prestige, community prestige of the locality etc. Minorities want to start a college whether there is absolute need or not through their constitutional rights. The Govt. establishes colleges on the basis socio-political-economic considerations of the locality rather than on pure academic rationality. Political parties always demonstrate their achievement in establishing number of colleges during their tenure of power.

The role of the State in the promotion of its colleges and private colleges should be taken into consideration. It is apparent no one will come forward for the establishment of a college in backward and tribal areas. The State seeks the development of colleges in backward areas in order to reduce inter-district disparities. It may ask the University to be more liberal/flexible in granting affiliation to new colleges when they are located in backward and tribal areas. Until recently A.P. State has insisted that the proposed college should take its prior permission/recognition before affiliation by the University, because affiliated colleges sooner or later come to depend on the State for most of their current expenditure. The U.G.C. suggested that the University should prepare a project report for the proposed college and send it with recommendation to the State Govt. The State Govt. within three months should give its recommendation as far as its financial implications are concerned to the University. The A.P. Govt. has issued new guidelines for opening of new private colleges and alongwith guidelines, it has also demanded that private colleges should give a written undertaking not to approach the Government to seek grant-in-aid at any time.

### Physical Standards

The conditions of granting affiliation to colleges are not uniform in all the universities; these vary in their degree of severity from one university to another. Some



universities' Acts have incorporated the procedure and conditions of affiliation in the Act. Other universities have made Statutes under the Acts. Whatever be the form, the conditions of affiliation should be implemented without deviation. The Public Accounts Committee 1977-78 of the Sixth Lok Sabha in its seventy third report remarked "that at present the affiliation of colleges is entirely the responsibility of the respective universities and the rules therefore are prescribed in the various Statutes under which the universities are established and the U.G.C. has not laid down any rules not even guidelines". After a decade the U.G.C. issued "guidelines of terms and conditions of affiliation of college by a University". These guidelines are issued with regard to certain standards to be provided by the proposed college. These standards are with regard to (a) endowment (b) land (c) civic facilities (d) student hostel (e) residence of Principal and Staff (e) essential services (f) laboratory and its equipment (g) library, and (h) staff etc. A university has to fix specifications of physical standards keeping in view the guidelines of the U.G.C. The U.G.C. also issued norms for library, lecture room and laboratory for the guidance of universities. A university may prescribe very severe conditions but may yet in practice grant affiliation to a college which does not fulfil them, due to extraneous reasons.

Recently the A.P. Govt. has liberalised the pre-conditions for the starting of new colleges in A.P. It liberalised the land to be provided by the new colleges in the urban area from 7.50 acres of land to 4 acres excluding the built-up plinth area for the academic buildings such as classes, laboratories etc. Again it classified urban into urban agglomeration and urban. In the urban agglomeration area the land to be provided by each educational institution is fixed at one acre for student strength upto 1000 and 2 acres for student strength above 2000. The U.G.C. has suggested each college should have a minimum of 5 acres of land; 2-3 acres for construction of building including staff quarters and 2-3 acres for play fields. Regarding Corpus Fund it has raised from 6.00 lakhs to 7.50 lakhs and one-third Corpus fund shall be deposited before starting the college and the balance to be paid in two equal instalments within a total period of three years from the date of starting of college. In addition to corpus fund the promoters of college should build a plinth area of 8,000 sq. ft. of building within three years from the date of starting the college. These conditions equally apply to the Govt. and Private Colleges.

#### Academic Standards

The physical standards create an environment of teaching but the successful operation of courses of

study depends upon academic standards. The physical and academic standards are inter-related and inter-dependent. The university has the responsibility of fixing academic standards such as admission of students into various courses of study; number of teaching days in an academic year; working hours of the institution; total workload on student per week; minimum attendance the student has to fulfil for appearing in the university examinations, qualifications of teachers; weekly workload of a teacher etc. Each university has its own academic standards for the courses of study at the undergraduate and postgraduate level. It is heartening to note that the U.G.C. has issued Regulations of Minimum Standards for the grant of first degree through formal education in 1985.

These regulations are with regard to:

(A) *Students*: 12 year schooling is necessary for admission into the first degree. It has not mentioned what should be the age at the time of admission. According to regulation regarding the total weekly workload on a student, when a student offers a combination of courses, it should be ensured that the total weekly workload on a student is not more than 30 clock hours. The enrolment of students shall be in accordance with the number of teachers and physical facilities available. Generally the class should not have more than 80 students. It has not differentiated between Arts & Commerce and Sciences. The Andhra University has fixed the strength of a section at 48 in Sciences and 60 in the case of Arts & Commerce. In exceptional years the University allows marginal increase from 48 to 60 in Sciences and 60 to 80 in Arts and Commerce on the basis of availability of physical facilities.

(B) *Institution*: The number of teaching days should not be below 180 in an academic year. But the universities and colleges are treating 180 days as the maximum. The Conference of Vice-Chancellors (May 1981) has recommended that academic year should be of 210 working days. The U.G.C. has suggested in the guidelines that it would be desirable for universities to make an effort to raise the number to 200 or more. Working days are not necessarily the teaching days. The working days of college should be increased in such a manner that at least the teaching days should not fall below 180 days. The U.G.C. has defined that working days shall exclude holidays and vacation, time set apart for completing normal admissions, and time required for preparation and conduct of examinations. It has not taken into consideration contingencies of unexpected events, such as students boycotting classes for a variety of reasons; teachers not attending classes on account of entitlement of leave; classes cancelled on account of



inclement weather. All these will often reduce the number of teaching days. There should be a contingency planning for the unexpected events in each academic year say 10/12 per cent of 180 teaching days should be added to the academic calendar making it 198/202 working days. It is a well known fact that the number of teaching days for the first year is far less when compared to 2nd and 3rd year degree students. This is mainly because of late admissions in the first year which generally take place after long Summer vacation. The admission into first year classes should be processed in the summer vacation and admissions should be completed by the last day of long vacation, if necessary in anticipation of result wherever possible. In order to save teaching days and covering syllabus of 1st year, the U.G.C. has suggested that the colleges should conduct 1st year examinations themselves instead of university examinations. The colleges and universities are losing teaching days mainly because of supplementary examinations. Attempts should be made by universities and colleges for the abolition of supplementary examinations. Abolition of supplementary examinations will increase the number of teaching days.

The U.G.C. has suggested an 8-hour working day and total periods provided in the timetable would not be less than 40 clock hours. Further the U.G.C. has suggested the universities should also see that working day in a department or faculty does not become just a few hours of the forenoon. Some affiliated colleges are working on shift basis due to lack of physical accommodation. Some departments of university colleges are conducting classes in the forenoon and concentrating on research and guidance in the afternoon. Student leaders are demanding (particularly Arts & Commerce) that teaching should take place in the forenoon so that they will be free in the afternoon. In the afternoon the students want to learn by themselves and prepare for competitive examinations etc. Different forces will work—students, teachers and non-teaching (administrative staff)—in fixing the working hours of the day in the universities and colleges. One unanimous view is that the college should work as a fulltime institution instead of working a few hours in the forenoon.

(C) *Teachers:* The first regulation is that no teacher shall be appointed who does not fulfil the minimum qualification prescribed for recruitment as per U.G.C. norms. In addition to the minimum qualification, the teacher should qualify himself in the National Eligibility Test to be appointed as a teacher. Generally Govt. recruits teachers in Govt. colleges through Public Service Commission and the Governing Body of a private college used to appoint lecturers in its college according to university norms as well as reservation policy of the State. Until recently the private affiliated

colleges in Andhra Pradesh have no freedom to appoint full time lecturers since the A.P. College Service Commission is the only competent authority to select teachers for all the affiliated colleges both Government and Private aided/unaided colleges.

Regarding the nature of work and calculation of workload of a teacher, the regulation states that "the workload of a teacher shall take into account teaching, research and extension activities, preparation of lessons, evaluation of assignments, term papers etc., and shall be in accordance with the guidelines issued by the U.G.C.". According to the guidelines all teachers should work 40 hours a week in the undergraduate and postgraduate colleges. The break up of 40 hours of workload is significantly different between undergraduate and postgraduate levels. The teaching and tutorials/laboratory is 20 hours per week at the undergraduate level and teaching and tutorials/laboratory is 14 hours at the postgraduate level. These are the contact hours in the classrooms/laboratories. While implementing the revised pay scales, the A.P. Govt. has not differentiated between undergraduate and postgraduate teachers. The Govt. order fixes a minimum of 20 clock hours of teaching work per week. Another critical issue is whether certain Bachelor degrees such as Law, Engineering, should be treated as Undergraduate or postgraduate. In the case of 5-year Law, in the first two years, the students will be taught non-legal subjects and the status of these non-legal subjects should be treated as undergraduate or postgraduate. The guidelines, however, stated that the break up of 40 hours per week is not rigid. Where tutorials do not take place, teaching work may be slightly increased. The A.P. Govt. has increased teaching work in the Arts and Commerce from 16 clock hours per week to 20 clock hours, which is against the U.G.C. formula. That a teacher should not have to teach or lecture more than three hours per day. However, the teachers should not forget that the workload per week is 40 hours or he should stay in the college for an average of 6 hours 40 minutes per day. This is the reason why the regulation states "Every teacher shall be available in the institution on a working day during the period prescribed". The question is how many teachers are available to students/authorities/public during working hours? Finally, it is dependent upon the code of professional ethics. Various State Govts. implemented revised pay scales without emphasis on code of professional ethics.

#### **Temporary Affiliation to Permanent Affiliation**

At the first instance the university grants temporary affiliation subject to fulfilment of conditions/stipulations laid down in the inspection report. After obtaining



the temporary affiliation the new college may take a lethargic attitude and postpone the fulfilment of its promises to the university in respect of provision of physical and financial resources. When the term of temporary affiliation draws near to close, the college requests for extension of the temporary affiliation and the university generally obliges by accepting such a request and extends temporary affiliation subject to the fulfilment of the conditions. The U.G.C. has suggested that the temporary affiliation should not be for more than five years. If a college is not going to fulfil the terms and conditions within the five year period, the affiliation be deemed to have been withdrawn by the university.

Permanent affiliation status is a prerequisite for the U.G.C. assistance under section 12 B of the U.G.C. Act. In order to avail of U.G.C assistance for the development of colleges, the A.P. Govt. has requested the universities to grant permanent affiliation to its colleges subject to fulfilment of minimum conditions and having minimum five years standing under temporary affiliation. Besides the temporarily affiliated colleges, the older ones enjoying permanent affiliation also manage to exist with considerable deviation from the standards prescribed by the university. The managements of private colleges feel that permanent affiliation means absence of university inspection. Kothari Commission remarked "Affiliation should be regarded as a privilege which is to be continuously earned and deserved. It is, therefore, necessary to arrange periodical inspection of all colleges, preferably once every three years, with a view to ensuring that proper standards are maintained". As per the Andhra University Statutes each college shall be subject to inspection from time to time by one or more competent persons authorised by the Syndicate/Executive Council in this behalf. There is a general tendency on the part of colleges to deviate from the prescribed physical and academic standards. The university has to correct the deviations from the prescribed academic standards and suggest various measures to improve the standards from time to time. The Andhra University has introduced penalties in the case of deviation from the regulations and standards by a college. As per Statutes the Syndicate may impose any one or more of the following penalties on the management of a non-govt. affiliated college, which violates or deviates from the University's rules, regulations, ordinances, Statutes, Standing Orders of Syndicate and directions issued by the Syndicate from time to time:

(a) Withholding consideration of the teachers of the college for purposes of appointment of examiners, (b)

Withholding recognition of the college as an examination centre, (c) Withholding grant of additional sections or extra seats, (d) Withholding grant of further affiliation in new courses of study, (e) Withholding recommendation to the U.G.C. or other authorities of the proposals made by the college for grants, (f) Recommending to the U.G.C or other authorities for stoppage or discontinuance of grants to the college in respect of proposals already sanctioned, (g) Recommending to the State Government to withhold grants-in-aid to the college, (h) Suspending the college Governing Body and appointing Adhoc Committee in its place, (i) Withholding grant of renewal of conditional affiliation to the college.

These penalties may lead to conflicts between the university and its affiliated colleges. The universities are exercising administrative control over the affiliated colleges without looking after their problems. Universities should identify the problems of affiliated colleges and suggest solutions to their problems. The universities should move from the administration of affiliated colleges to the management of affiliated colleges. When once college is admitted to the privileges of the university under the affiliation, generally the college expects from the university.

- a) guidance to solve academic problems;
- b) assistance for improving their teachers qualifications;
- c) teaching assistance in those courses of instruction where the colleges have deficiencies;
- d) opportunity for their teachers to utilise the library and research facilities of the university;
- e) recognising deserving colleges for conducting research programmes leading to M.Phil. and Ph.D. degrees;
- f) due representation in the decision making bodies of the university such as Executive Council, Senate, P.G. Board of Studies;
- g) conducting refresher/orientation programmes for the college teachers;
- h) guidance for the college for the preparation of institutional planning;
- i) the university should act as a liaison between the U.G.C. and affiliated colleges and State and the affiliated colleges;
- j) opportunity for their students to participate in the university's academic, cultural and extra-curricular activities.



Currently there is an invisible wall between the university and the affiliated colleges. The invisible wall should be removed and colleges should be integrated with the university. The present administrative relationship between the university and affiliated colleges which is one of superior-subordinate relationship should be changed and the concept of management of affiliated colleges should be introduced in every affiliating-cum-teaching university.

### **Development of Affiliated Colleges**

The Conference of Vice-Chancellors dated 21-23 April 1969 has suggested "In order to ensure maintenance of standards and proper development of colleges, a suitable machinery may be evolved in the university". Various commissions/committees etc. have suggested different machineries/mechanisms for the effective administration of affiliated colleges by a university. The following is a review of the suggestions made by different commissions/committees/persons.

#### *a) Radhakrishnan Commission*

Traditional remedy for the planning and development of affiliated colleges is establishment of a new University. Radhakrishnan Commission while discussing the problems of large number of colleges affiliated to a university suggested "The only remedy; and it is one which we commend on its own merits; as well as being a remedy for the excessive number of colleges grouped together, should be for new universities to be established in towns possessing either one college of adequate strength to stand on its own feet as a university, or a group of such colleges which could form a teaching university of the federative type". Whether the creation of a new university will really help in the effective management of affiliated colleges can be learnt from the historical analysis of South Indian universities.

The original jurisdiction of Madras University was not only Madras Presidency but also princely states of Mysore, Nizam and Travancore-Cochin. All colleges which were located in the South India were once affiliated to Madras University. In South India consisting of Tamilnadu, Karnataka, Kerala and Andhra Pradesh a large number of conventional universities were established partly to meet the regional needs of higher education and partly for effective management of affiliated colleges. In the evolutionary process, at the first instance, teaching cum affiliating universities were established on geo-linguistic basis and maintained with the status of state level universities. At the second instance universities were established on regional basis within the State. Finally at the third instance universities were established within the region for the effective manage-

ment of affiliated colleges. As the colleges affiliated to the existing university increase in number, the later finds it unwieldy to administer them and a new university is sought to be created. There appears to be no minimum or maximum limits to the number of colleges that may be affiliated to a university. The university Education Commission has opined that "Even under the best circumstance, no universities can properly control conditions in a group of colleges numbering 50 or more; yet that is what some universities are today attempting to do". The Gajendragadkar Committee has pointed out that the number of colleges should not exceed about thirty and certainly not beyond twice this size. If so many more new universities will be needed to manage the existing colleges as the number of colleges will continue to increase, this may become a perennial reason for creating a new University. Instead of creating a new university to manage the additions to colleges appropriate administrative techniques may be designed by the existing university.

#### *b) Kothari Commission*

Kothari Commission has recommended the establishment of Council of affiliated colleges in every affiliating University. The Council will advise the university on all matters relating to affiliation of colleges, to keep a close contact with the colleges for its growth and development and maintenance of standards and implementation of university policy. The Andhra University had experimented it from 1976 to 1980. The University Act was amended and a new section incorporated for the purpose of the council of affiliated colleges. It consisted of the Vice-Chancellor as Chairman and the Registrar as Secretary, the Principals of affiliated colleges; the Heads of the Departments of university colleges; not more than ten representatives of affiliated colleges and the State Director of Higher Education. It met at least twice a year and made recommendations to concerned authorities of the university regarding the academic and administrative problems of the affiliated colleges and the maintenance of standards therein. The Principals of affiliated colleges considered the council meetings an open platform for their grievances and used to attack the university authorities in conducting examinations, since the Principals were also Chief Superintendents in conducting the university examinations in the colleges. The entire session was devoted to the problems of administration of colleges. Little attention was paid on academic planning and development of affiliated colleges. Further, curriculum development, introduction of new academic programmes, approval of new combinations, regulations of academic programmes and such other aspects is the



prerogative of the Academic Council. Most of the members of the affiliated college council were also members of the Academic Council. Thus there was duplication and the council of affiliated college became superfluous. It was abolished after four years of operation on the ground that it has not served as a constructive and creative body for the development of affiliated colleges.

*c) J P Naik on Reorganisation of Higher Education*

Writing on reorganisation of higher education in 1972, Prof. J.P. Naik recommended that the university be relieved of all responsibilities for undergraduate colleges and be left alone to pursue its postgraduate teaching and research.

The undergraduate colleges should be delinked from the university and entrusted to Boards of Collegiate Education to be created by Acts of state or central legislature. The postgraduate colleges will have to seek affiliation with the universities for the Master's degree courses and with the Board of Collegiate Education for the first degree courses. Prof. Naik's recommendation will add one more tier, Board of Collegiate Education, to the three existing tiers in education in the country, i.e., The Board of Secondary Education, The Board of Intermediate Education and the University. This arrangement will give uniform status to the undergraduate degrees awarded to students in one State; further it will allow greater mobility to students who have to move from one university area to another within the State (provided there are no nativity restrictions within the State).

On the other hand, the measure recommended by Prof. Naik will sever the undergraduate colleges from the university, instead of seeking to bring about a proper balance in the university's functioning. The college, as an organization engaged in higher education, expects guidance and intellectual stimulus from the university, which is the higher seat of learning. The university is basically capable of effectively administering a reasonable number of colleges.

*(d) Ghani Committee on Calcutta University*

Ghani Committee appointed by U.G.C./Ministry of Education on Calcutta University, which has more than 200 colleges has recommended decentralization of administration for the purpose of achieving effective administration of colleges. Regional Councils will be constituted and they will operate within the framework of the university. Each Council will be responsible for administration of colleges, e.g. 30 to 35 in the case of

Arts and Sciences. Each Council will be autonomous and responsible for the supervision of affiliated colleges within its jurisdiction and the conduct of examinations. Co-ordination among the various councils will be brought about by a Council for Undergraduate Education which will decide matters of common interest. Further there will be a common Board of Studies for each subject in the case of Arts/Humanities and Sciences consisting of representatives of teachers from all the regional councils.

Under the above scheme of decentralisation, a sense of participation will be created on the part of a much larger number of organisations in policy making. But the coordination and communication among the councils will be a big task. The Ghani Committee focussed attention on the problem of decentralisation of examination system of Calcutta University. The responsibility of conducting examinations was shifted from the centre of university to the regional councils. The decentralisation of examination system does not provide academic leadership to colleges by university.

*e) New Education Policy 1986*

The New Education Policy 1986 has stated: "In view of mixed experiences with the system of affiliation, autonomous colleges will be helped to develop in large numbers until affiliating system is replaced by a freer and more creative association of universities with colleges". The concept of autonomous colleges is highly commendable. But the progress in this direction is very poor. It was planned to declare 500 colleges as autonomous colleges during the seventh plan period but only 95 colleges were declared as autonomous colleges upto the end of 31st March 1989. When Andhra University (1987) called for proposals from the colleges for the grant of autonomy only seven colleges came forward to take autonomous status. The growth and progress of autonomous colleges depend upon affiliated colleges teachers' support and co-operation. As per U.G.C. guidelines the teacher should work not less than 40 clock hours a week. It appears teachers in the autonomous colleges are working as per U.G.C. norm when compared to non-autonomous colleges. The teachers in the non-autonomous colleges have escaped from the testing/examination and freed from responsibility and accountability of examinations. This is the reason why Radhakrishnan Commission recommended that "no college should be affiliated unless it is able to undertake the internal assessment of its own students work during their degree courses".

The U.G.C. has suggested certain norms as criteria for identification of institutions for grant of autonomy. According to these norms only a small percentage of



total number of affiliated colleges will deserve autonomous status. The existing affiliating system does not provide autonomy to colleges but it cannot be replaced under the present socio-economic conditions of the country. Today we have colleges in the rural/tribal areas and this is mainly because of affiliating system. The Programme of Action on Higher Education has suggested: "Initiate detailed studies to develop alternate methods of university — college relationship that could replace the existing affiliating system in the long run". First of all the defects in the existing system should be removed through various techniques of management which may result in a new approach to university-college relationship.

*f) UGC Committee on New Model of Affiliating University*

The U.G.C. has also realised the need for a newer and serious approach towards affiliated colleges for the maintenance of standards of teaching, research and extension. It appointed a committee to evolve a new model of an affiliating University.

The Committee examined the Government of Rajasthan note on "affiliating University in Rajasthan". The note suggests affiliating university for the entire State with responsibility of affiliation and conduct of examinations of all the undergraduate and postgraduate courses including private candidates excluding constituent colleges of other universities in the State. It has no teaching departments of its own but it will establish centres of studies for teaching improvement and research programmes. Because of vastness of area and number of colleges, administrative sub centres will be set up to reduce the strain on the administrative structure of the new university.

As mentioned earlier, until 1923 Madras University was purely affiliating university without teaching and research departments of its own. The innovativeness in the above model is the establishment of study centres to provide academic leadership. The centres will supervise research preferably relevant to the area and academic channels to the colleges of its region. The geographical jurisdiction will be very vast in the case of big states such Andhra Pradesh, Madhya Pradesh, Uttar Pradesh etc. With the university headquarters in one place and study centres and administrative sub-centres in different places, the coordination and communication among the centres as well as between the centres and the university will become a problem. Some teaching cum affiliating universities are having postgraduate centres. Colleges situated in some districts near postgraduate centre may be entrusted to the postgraduate centre for administration and academic

leadership purpose. The creation of separate affiliating university with study centres and administration sub-centre may not serve the purpose for which it is created.

*g) UGC Committee on Management of Universities*

Recently, the U.G.C. Committee Report on Management of Universities has recommended that every affiliating university should establish an office of Dean of Colleges with the back up of a Collegiate Council in place of the existing College Development Council. The Council should also be responsible for the maintenance of standards of teaching in the colleges.

The U.G.C. has also suggested: "There was an urgent need for creating an appropriate body at the University headquarters for ensuring the proper planning and integrated development of affiliated colleges and to provide the colleges necessary help and guidance". The structure it suggested is College Development Council (CDC). The Officer who will look into the CDC may be designated as Director/Dean/Coordinator. The Andhra University Syndicate considered the above proposal and the post was designated as Dean and made it in the rank of Registrar. Further the Syndicate directed that necessary amendments to the Statutes etc. may be made. The Dean of Collegiate Education is a special invitee to the meetings of Syndicate/Executive Council concerning affiliated colleges and ex-officio member of the Academic Senate.

The U.G.C. has listed sixteen functions to be performed by the College Development Council. All these functions may be grouped around the activities of planning, organizing, staffing, directing and control. These are five basic functions of management. Further, the essence of management is coordination. Planning is a basic management task along with organizing, leading and controlling. According to Koontz and O' Donnell "Planning is deciding in advance what to do, how to do, when to do and who is to do it. Planning bridges the gap from where we are to where we want to go". Hitherto planning was absent in the integrated development of affiliated colleges. So far the universities have been administering the colleges without planning. As per U.G.C. the CDC should function as a policy making body in regard to proper planning and integrated development of colleges. For this purpose it conducts surveys (districtwise), prepares a perspective plan, advises the university with regard to development and rationalisation of affiliated colleges.

In order to realise the objectives, activities should be enumerated and structured. Organization structure



determines the relationship of activity-authority. The C.D.C. is an addition to the existing machinery. The existing machinery should not be an obstruction to the C.D.C. in discharging its duties as per U.G.C. guidelines. The Dean/Director of C.D.C. directly reports to the Vice-Chancellor. When the Vice-Chancellor wants to place any item relating to affiliated colleges before the Executive Council/Board of Management it should go through the Registrar who is the Secretary of the Executive Council. The relationship between the Registrar and the Dean/Director is horizontal. Again the Dean has to make contacts with various academic heads of the university in order to establish close contacts between colleges and university departments of teaching and research. The Dean/Director should enjoy sufficient freedom to establish contacts between the colleges and university, State and U.G.C. The university should clearly define the area of freedom, that the Dean should enjoy. One author rightly said without clearly defined area of freedom there is no freedom.

Staffing is the management function which involves the recruitment, selection, compensating, training and promotion. The role of the Dean/Director of Collegiate Education is limited. Recently the U.G.C. has decentralised the awards of teacher fellowships for the teachers of affiliated colleges. The Director of C.D.C. is a member of Selection Committee. As per the Andhra Pradesh Govt. order the recruitment of teachers in the private engineering colleges will be made by a selection committee headed by the Vice-Chancellor. Since the college is an affiliated institution, the Director/Dean will act as Secretary of the selection committee. The Dean generally helps the colleges in communicating the qualifications required for the teachers to be appointed in the affiliated colleges. Whenever a college wants subject matter specialist on the selection committee, the Dean requests the Vice-Chancellor to nominate subject matter specialist. The role of direction in staffing is determined by the administrative framework of the university. The Academic Staff College takes care of training programme of teachers. The Director of C.D.C. is a member of the advisory committee of staff colleges. The Director explains at the meeting the training needs of affiliated colleges.

Generally directing means guiding and supervising subordinates. The Principal and staff of affiliated colleges are not subordinates. The university issues orders and the colleges receive an order that does not necessarily establish superior-subordinate relationship. In the above situation directing may be taken as leading

and the functions of leadership are motivation, communication and direction. The Dean has to motivate, communicate, direct the colleges in order to achieve desired change. At the time of implementation of minimum standards of instruction and workload of teachers, there was a tremendous unrest in the affiliated colleges of Andhra Pradesh. The unrest eclipsed and harmony was established between university and affiliated colleges. When the Andhra University introduced "Indian Heritage and Culture" and "Science and Civilization" as compulsory subjects under foundation course as per U.G.C. guidelines on structuring of courses, the teachers and students of affiliated colleges opposed the introduction of new subject. But the problem was solved due to effective communication system. Finally the success of leadership depends upon the willingness and determination of the Vice-Chancellor. The Andhra University has adopted two techniques to bring about closer relationship with the colleges. A meeting of the Principals of each District is held at the District headquarters. The special invitees are Collector, the Police Superintendent, Regional Director of Higher Education, the N.S.S. Coordinator and Director of Adult & Continuing Education. The Vice-Chancellor hears on the spot various problems of the colleges including its relationship with the University, State and U.G.C. The session is highly productive and the Principals are happy that the Vice-Chancellor and the Dean were with them. Another technique is decentralization of inter-university and inter-collegiate activities from the campus to colleges. There is a feeling among affiliated colleges, that they are also partners of the university.

The managerial function of control is measurement of accomplishments against objectives and the correction of deviation in order to attain stated objectives. The affiliated colleges are geographically separated from the University Centre. The essential element of control is some sort of feedback. As per Andhra University Code, the affiliated College should submit annual teaching returns. The C.D.C. has to monitor the implementation of various U.G.C. programmes in the affiliated colleges including utilisation of grants and its impact. As a corrective measure the C.D.C. has to review the inspection reports of the colleges and suggest remedies for the defects and irregularities reported. The C.D.C. is accountable through its annual reports, which will be placed before the Executive Council and The U.G.C. The managerial functions of C.D.C. (Planning, organizing, staffing, directing and controlling) is analysed and described. The C.D.C. as a unit organization within the University organization should enjoy autonomy. The post of Dean should be a statutory

*(Contd. on page 20)*



# Increasing the Efficiency and Effectiveness of Teachers in Higher Education

S. Aravanan\*

## Introduction

Education is a process of development from the cradle to the grave. Man becomes a man through education and he alone can be educated while the other living organisms are trained. While his life is guaranteed by food, it is glorified by education. Teachers discharge this noble task of glorifying the life of man.

## Importance of Teacher

The importance of teacher in the educational process is unquestionable. In the present day system of high sophistication and specialisation, one can hardly make a statement which may not be called into question. But to say that in the educational process a good and effective teacher occupies a place of tremendous importance is accepted by all as true. He is central to the educational system. The success of the educational system lies in the hands of the teacher who handles it. Any worthwhile change in educational organisation and system can be effectively implemented only by a corps of efficient teachers. The National Policy on Education (NPE) 1986 rightly emphasises the importance of teachers as follows: "The status of the teacher reflects the socio-cultural ethos of a society; it is said that no people can rise above the level of its teachers."

However the entire edifice of education is shaky if the teacher is weak and ineffective. In the words of Ryans, "If competent teachers can be obtained the likelihood of attaining desirable educational outcomes is substantial. On the other hand..... if the teachers are misfits or are indifferent to their responsibilities, the whole programme is likely to be ineffective and largely wasted." But unfortunately it is true that all the teachers available in the educational system are not effective and efficient. However I sincerely feel that there is none as ineffective teacher or inefficient teacher. All teachers are contributing their mite to the noble task of education according to their abilities and capabilities. But some teachers are less efficient and less effective as compared to their counterparts or in the sense that they do not fulfil the expectations of the

taught and the society.

Education which was once a bipolar process, where two factors viz. the teacher and the taught were engaged in transacting the business of education, has now become a tripolar process, wherein the third element of society is included along with the other two factors. Thus in addition to the taught the society also expects a lot from teachers. In view of the above the importance of an effective and efficient teacher in the educational process is indeed indisputable.

## Increasing the Effectiveness and Efficiency of Teachers

In spite of universal recognition of the importance of effective teachers relatively little progress has been made in defining effective teaching or specifying the distinguishing characteristics of effective teachers. Though many studies have been conducted on this both in India and abroad yet the question, "what is effectiveness and who is an effective teacher?" remains one of utmost importance and an answer to it is greatly needed. An earnest attempt has been made in this paper to summarize the opinions and views of eminent educationists, great philosophers and researchers as to how to increase the effectiveness and efficiency of teachers and what are the characteristics of an effective teacher.

According to Rabindranath Tagore the teacher occupies a very high position in the educational system. He entrusted him with the responsibility of making men out of children. At the same time he warned the teachers not to affect their personality. Tagore once said, "He who lost the child in himself is absolutely unfit for the great task of educating the children." He wanted the teachers not only to be considerate but also to be kind. This is well brought out in his statement: "An immense amount of sympathy and understanding and imagination are needed to bring up human children." While speaking about the qualities and expectations of a teacher he said, "The most important truth, which we are apt to forget is that a teacher can never truly teach unless he is still learning himself. A lamp can never light another lamp unless it continues to burn its own flame."

\* Academic Staff College, Pondicherry University, Pondicherry - 605 008.



Thus from Tagore we get a few pertinent points:

1. A good teacher should not affect the personality of the students.
2. He must be kind and considerate with the students.
3. Immense amount of imagination on the part of the teachers will increase their efficiency and make them effective.
4. A teacher can never effectively teach unless he is still learning himself.

Herbert Spencer a great philosopher and an eminent educationist had stated that effective teaching should never be artificial. According to John Dewey the teacher should act as a friend, philosopher and guide. Our Father of Nation also expressed the same opinion about a teacher.

Swami Vivekananda was one among the great philosophers who boldly expressed his opinion about teachers. He wanted the teachers to have in them certain desirable qualities which would make them effective and efficient. First of all he wanted the teachers to understand the students. This will help the teachers to find out the hidden potentialities and to develop them according to their development. He said, " The true teacher is one who can throw his whole force into the tendency of the taught." He warned the teachers to come down to the level of the learners and to transfer their soul to the learners' level. He has greatly emphasised the importance of the personality of the teacher. He has attached great importance to the personal life of the teacher and also to his character. Further he wanted the teacher to serve with a sense of dedication and service mindedness.

Many researches were also conducted on the subject. One such research conducted by A.S. BARR found that good teachers as compared to poor teachers were more vigorous, more enthusiastic and happier, more emotionally stable, more pleasant and sympathetic and displayed a keen sense of humour. Another research conducted by David G. Ryans found that there was a general tendency for good teachers to be extremely generous in appraisals of behaviour and motives of others; to possess strong interests in reading and literary affairs; to participate in social groups; to enjoy pupil relationships; to prefer non directive classroom procedures; to manifest superior verbal intelligence; and to be above average in emotional adjustment.

In India Kamla Arora of NCERT conducted a research on differences between effective and ineffective teachers. An analysis of data collected for the research revealed the following profile of an effective teacher.

An effective and efficient teacher must

1. have accurate knowledge of the subject,
2. have ability to bring the subject matter to the level of students understanding,
3. explain topics clearly,
4. make clear presentation of the subject - matter,
5. organise subject matter systematically,
6. have self-confidence,
7. have ability of expression,
8. have skill in stimulation of interest and motivation of students,
9. have sense of duty & responsibility,
10. plan and prepare his lesson,
11. have good health,
12. have skill of correlating subject matter effectively,
13. have quality of leadership,
14. have sportsman's spirit,
15. have skill in the use of instructional material,
16. have knowledge of evaluation techniques,
17. be impartial with students,
18. have ability in questioning, and
19. have respect for students' opinion

We in our Academic Staff College conduct Orientation Programme for college and university teachers. In these programmes we used to have a session on the topic under discussion. Some of the salient points emerged during the discussion are:

1. Teaching is not just telling. Hence an efficient teacher is one who does not merely tell something. He must communicate and the communication has to reach the students.
2. Effective teaching is possible only when the teacher maintains a conducive classroom atmosphere.
3. Teachers should resort to self evaluation for improving their efficiency.
4. Teachers should associate themselves with professional bodies and inservice educational institutions.
5. Appropriate methods of teaching should be selected to suit the needs of all kinds of students — the gifted, the average and the less average.

(Contd. on page 16)



# User Education: Universities and Research Centres

K.Balasubramanian\*

K.Neelakantan\*\*

User education is an instrument which educates the user to retrieve the required information through the available resources in the libraries and information centres. There is an enormous wastage of research due to non-use and mis-use of all types of bibliographical resources and information available throughout the world. This presents a great challenge in educating the user. The libraries and information centres must encourage the users to make greater and better use of available information resources in less loss of time. In addition, educating the library user improves the quality of the use.

User education in recent years has become the subject of a great deal of activity and concern. Usually it is presumed that the user education means some instructions given by the teacher librarian at the unit level classes, of course, followed by some practical classes etc. User education is something more, something wider, something nobler with magnificent purpose. User education is mainly and basically value based education aiming at certain values like creating true scientists and creative thinkers.

The user education, at present has caught the imagination of professional librarians all over the world. In India, it is beginning to gain momentum. The INSDOC, New Delhi, DRTC, Bangalore, IASLIC, Calcutta, and NAARM, Hyderabad have organised some activities in this area through seminars and workshops. There is complete lack of teaching aids including printed and audio-visual ones required for user education programmes to serve Indian requirements.

Following are the reasons for having user education in universities and information centres:

1. Growing complexity in the bibliographical world;
2. Creation of new varieties of access tools;
3. Induction of more number of persons in the research field;

*\*University Librarian, \*\*Assistant Librarian,  
Tamilnadu G. D. Naidu Agricultural University,  
Coimbatore - 641 003.*

4. Introduction of modern technologies in the storage and retrieval of information; and
5. Users are not adequately equipped in the availability, location, retrieval and use of information.

User education involves the total interaction of the user with library/information/documentation unit. Due to technological development in the information handling techniques of many a primary, secondary, tertiary information and periodicals based on these hypotheses and other sources, the library users are finding it difficult to cope with changing complexities in these areas. Hence the user of information has to be properly equipped to find the information of his interest on other topics of teaching, research and extension from the available sources.

The user education for scientists and research workers is valuable atleast for three reasons:

- i. Reveals the importance of research progress;
- ii. Guides the formulation of the problem; and
- iii. Helps in interpreting the result.

The survey of literature helps in easy understanding of the problem and enables to observe the trends and developments through research programmes. The user education helps in knowing what others are doing and provides an opportunity for creative thinking and avoids duplication of research through the formulation of the problem.

It helps the personal satisfaction and increases the confidence in the research area where the scientists are working through the interpreting of results.

Experiments in user education have been carried out by few volunteers by conducting information learning programmes for research institutions on sporadic basis. User education programmes have been conducted by Jawaharlal Nehru University library for students of sociology. Such efforts are very few. Indian agricultural universities offer special courses in the form of bibliographic instructions. The Tamil Nadu G.D.Naidu Agricultural University Library, Coimbatore has provided such instructional classes to its under graduate,



postgraduate and research students to enabling them to acquaint themselves with library resources to improve users' skills in making effective use of library collection, services and staff and to increase users' ability to make independent use of library resources. The programme has been highly appreciated by the students and research workers of the university. The experience of the authors with Academic Staff College of Bharathiar University, Coimbatore is very encouraging and the teachers of various colleges who attended the information learning programme felt grateful for the information on effective utilization of library resources.

In most of the less developed countries, user education continues to be equated with library orientation. As a result, the other important components are neglected. In fact the crucial infrastructure necessary to sustain programmes of user education is lacking in India and indeed in most of the less developed countries.

The following are the some of the aims for user education programmes.

- Train all categories of users about how to obtain and use information;
- Train the user exploit the library resources adequately;
- Provide a general knowledge of channels of scientific and technical information communication and their importance;
- Provide the user the skills for independent information-seeking;
- Make familiar the user with the most important sources of information within his special field;
- Expose the user to the services offered by many national, international information centres/research libraries;
- Introduction to the use of indexing, abstracting, computerised information retrieval system etc. in their information seeking activities;
- Develop communication skills for effective retrieval of research findings through print media;
- Train the user in handling the various tools such as indexes, abstracts, reviews, bibliographies etc;
- Introduction to methods for storing the information collected by the user for immediate access whenever required;
- Handling of micrographs for information-search; and
- Availing of facilities of documentation services

such as reprographic, translations, video tapes, video records, discs etc.

The aims and objectives of the user education leads to an understanding of the user behaviours/attitudes to know their needs, which will help in designing an effective programme. Based on these objectives, the following course content will be helpful to train the users.

- Orientation to available facilities and resources;
- Teaching of basic research skills and strategies;
- Teaching of the organisation of literature in various disciplines as well as the basic reference tools in each discipline;
- Structure of scientific information, organisation of scientific literature;
- Bibliographical instruction;
- Secondary information sources, search strategy, use of indexes, abstracts and bibliographies;
- Literature search and selection and evaluation of information;
- Organising the information;
- Fact finding;
- Frontiers of information sources at national and international levels;
- Poster preparation; and
- Techniques for preparing abstracts, bibliographies, annotated bibliographies, footnotes, citations, references, reading list, literature cited, *ibid*, *idioms*, *op.cit.*, *circa*, *supra*, *infra* etc.

This course has to be handled mainly by an experienced librarian. The available resources from the university/institution can be drawn as a faculty to the user education programmes. There will be not much additional expenditure involved to conduct this course. The modern teaching methods should be used in the programme; learning by doing certainly is the best way for the users education programme. The users should not be fed with many theoretical library science lectures.

Following are the few teaching methods and aids for different types of instructions:

- A. Group instructions,
- B. Group and individualized instructions, and
- C. Individualized instructions.

The group (A) will contain lectures, seminars demonstration, tutorials, guided tours, and games and simulations



The group (B) will contain films, video tapes, tape slides, audio tapes, slides, transparencies.

The group (C) will contain printed guides, self instructional materials, desk-top, seminar guides, programmed instruction, learning packages, practical exercise, books, individual attention, computer aided instruction.

In India, at present, user education programmes at the university and research institution levels are very weak. It is better to popularise this user's education programme. Both librarians and educators generally recognise that user education is necessary for utilizing the libraries in an effective manner. In a country, like India, sound user education programmes need to be

developed which are strong both on techniques and methodology.

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## Increasing the Efficiency and Effectiveness of Teachers in Higher Education

(Contd. from page 13)

6. Familiarity with the fields of educational pedagogy and educational technology will go a long way in increasing the efficiency and effectiveness of teachers.

### Role of Inservice Programmes

Inservice programmes have now become part and parcel of teacher's career. The efficiency and effectiveness of a teacher can be increased to a very great extent with the help of these programmes. In the 35th session of the International Conference on Education in Geneva, the UNESCO Chairman made this statement: "The success of any educational enterprise depends primarily on the aptitudes and qualities of the teacher and innovation itself has no chance of success without the thrust of teachers who know their trade and work in it conscientiously and devotedly." It is thus clear that the success of a teacher depends upon his ability to make use of inservice training programmes.

### Role of Academic Staff Colleges

The reforms envisaged in the NPE 1986 are primarily aimed at making education a realistic instrument of socio-economic development of both the individual and the country and that academic faculty in higher education have to play a dynamic role in this regard. Academic Staff Orientation Scheme mooted by the UGC towards this end is the starting point for the conceptualization of Academic Staff Colleges in the country.

Accordingly the Academic Staff College, Pondicherry University has been organising Orientation courses for college and university teachers to enable them to:

- (a) Understand the significance of education in general and higher education in particular;
- (b) Understand the linkages between education and economic and socio-cultural development;
- (c) Understand their role in the national goal of achieving a secular and egalitarian society;

- (d) Acquire and improve basic skills of teaching at the college/university level;
- (e) Be aware of the developments in his specific subject;
- (f) Utilize opportunities for development of personality, initiative and creativity; and
- (g) Understand the organization and management of a college/university and to perceive the role of a teacher in the total system.

Any teacher, who attends the orientation course conducted with the above objectives will immensely benefit from the course. A perusal of the objectives of the course will clearly indicate that the conduct of the course is aimed at increasing the efficiency and effectiveness of teachers in higher education.

In addition to orientation courses, the Academic Staff Colleges also conduct refresher courses in the allotted disciplines with the main object of making the participant teacher self-sufficient in keeping himself abreast of the new knowledge in his discipline. The courses are well received and there is heavy demand for these courses. For instance in the year 1990-91 we conducted refresher courses in commerce and for each course we received more than 300 applications. This clearly proves beyond doubt, the importance given by teachers in higher education to the refresher courses conducted by Academic Staff Colleges. They have very well realised that these courses would definitely increase their efficiency.

### Conclusion

In this paper an attempt has been made to highlight the distinguishing characteristics of an effective teacher. Among other things the most important requisite of an effective teacher is that he should keep learning himself continuously. Towards this direction the inservice programmes have a vital role to play and the orientation and refresher courses conducted by the Academic Staff Colleges crown the inservice training programmes.



# Rural Industrialisation & Rural Unemployment

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**"The problems of rural industrialisation and rural unemployment are two sides of the same coin and while looking at one problem the other is also to be kept in mind. On the one hand, because of pressure on land we are witnessing a rural exodus to the cities in search of gainful employment. On the other hand, large wastelands are remaining unutilised, particularly when 80 percent of our wastelands are culturable waste. The twin method of arresting this trend is taking up agro forestry, horticulture, sericulture and various such systems to make our wastelands productive and to establish industries in rural areas, particularly agro and agro processing industries." Thus opined Shri Mohan Dharia, the then Deputy Chairman, Planning Commission while delivering the Convocation Address at the Seventeenth convocation of the Konkan Krishi Vidyapeeth, Dapoli, Distt. Ratnagiri. Excerpts**

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During the last 40 years of planned development in our country, growth with social justice has been the central theme of our planning. No doubt we have made a lot of progress. Immediately after independence, the problem uppermost in our mind was to create the required Infrastructure for our industrial and agricultural production. We wanted to be self-sufficient in food production. The real break-

creasing per day availability of foodgrains from 394.9 grams/day in 1951 to 496.6 grams/day in 1989.

Increased production of foodgrains has been mainly achieved through bringing more areas under irrigation, high yielding varieties and consumption of high doses of chemical fertilisers. Thus, irrigated area under foodgrains has increased from 17.8 per cent in 1950-51 to 32.7

## CONVOCATION

through, however, came by the end of the sixties with the availability of high yield wheat and later of high yield rice varieties. This ushered in the era of "GREEN REVOLUTION" in the country. The foodgrains production, which was only 50.82 million tonnes in 1950-51, has risen to 170.65 million tonnes in 1989-90. The yield rate has also increased from 553 Kg/hectare to about 1400 Kg/hectare during the same period. This resulted in in-

per cent in 1986-87. The area under high yielding varieties has increased from 15.38 million hectares in 1970-71 to 63.71 million hectares in 1989-90 while consumption of NPK fertilisers has increased from 65.6 thousand tonnes in 1951-52 to 12,200 thousand tonnes in 1989-90. In the case of cash crops like cotton, jute, sugarcane, the production has increased from 2.75 million bales to 11.41 million bales; 3.11 million bales to 8.35 million bales; 57.05 mil-

lion tonnes to 222.63 million tonnes, respectively during 1950-51 and 1989-90. India was the first country to evolve hybrid cotton which changed the production pattern significantly. Now the country is poised to export extra-long staple cotton which we used to import two decades ago. Our progress not only in agriculture and irrigation, but also in the industrial sphere is something which we can be rightly proud of.

In spite of all the developments we have made during the last 40 years, the fruits of development have not reached the millions of our masses in our country. Thirty per cent of our people continue to live in conditions of abject poverty even as per the current official definition of the poverty line which in my personal view is not a poverty line, but some kind of a survival line to keep body and soul together. The concept of poverty line in our official literature corresponds to a per capita daily calorie requirement of 2400 in rural and 2100 in urban areas. You will all agree with me that human beings need something more than just food converted to caloric value. If we take this into account, it will not be wrong to say that more than 50 per cent of our population continue to live in poverty. Because they do not have any purchasing power, we get an illusion that we now have surplus foodgrains. If only we can put reasonable purchasing power in the hands of this 50 per cent of our population who have been left out completely from the fruits of development, we will find that our present foodgrains production is too insufficient to meet the needs of our country. Seventy per cent of our population continues to be in the rural areas. Amongst the people who are poor, 82 per cent are in the rural areas. The urban poor also belong to the rural areas who have



been forced to migrate to urban areas with a hope to have better livelihood. So in reality, the problem of urban poverty is nothing, but a spill over of the rural poverty problem.

The Green Revolution, as I had stated earlier, has indeed helped us to increase our agricultural production. During the initial euphoria of the Green Revolution, agricultural scientists used to stress the fact that the "Green Revolution technology is scale neutral" — meaning thereby that the technology can be used with equal efficacy irrespective of the size of land holding of a farmer. Now all of us know that even if the technology is technically scale neutral, it is not resource neutral. To be able to take advantage of the new technology, it is necessary for the farmer to have credit, purchasing power to buy fertilisers, seeds, pesticides and other inputs at a time when they are less expensive in the market. Similarly, he needs marketing support. Because of these facts, it is well known that the bigger farmers have benefited much more from the improved technology in agriculture as compared to the small and marginal farmers. In some of the areas the new prosperity brought about a situation where the small and marginal farmers have been completely marginalised. We wanted social justice, but if we introspect, I am sure all will agree that the opportunities created by the new technology in agriculture have not benefited everyone in society equally. We need to think of correctives for this situation.

I will like to share with you some of my thoughts on how we can proceed to usher in a new era of social and economic justice in our country with active involvement and full participation of our people. To begin with I feel that we should have

an integrated approach to development. Even the education given in agricultural universities at the moment is rather compartmentalised. In this University you learn disciplines like agriculture, agricultural engineering, horticulture, dairy technology, animal husbandary, agricultural extension, etc. While knowledge of these subjects will be of immense value, to be able to apply the same in our village situation, a broad understanding of soil management, water management, manpower management and education related to integrated rural development should also form a core input for all students since agriculture and rural development are intimately interrelated.

We are beset with lot of problems. Some of the problems which are of utmost importance to us are :

- The uncontrolled population increase in our country is a matter of grave concern. Even at an assumed growth rate of 2.2 per cent by the year 2000, the population of India will be about 105 crores. The provisional 1991 Census figures indicate a current population of 84.4 crores. The efforts to control the growth rate have not succeeded. The requirements of all the essential commodities and articles, energy, raw materials, educational, health and other facilities will increase proportionately. It is essential for each one of us to scrupulously observe family planning. Since family planning is closely linked with social and economic conditions of the people, the war for successful family planning has to be fought simultaneously on several fronts and naturally it calls for integrated efforts and integrated approach.
- Nearly 50 per cent of our lands are waste or barren lands. The

country has been losing green cover at the rate of about 1.5 million hectares every year. If this process of deforestation is not effectively halted, India may soon be converted into a horrible desert.

- Changes in atmospheric chemistry such as air pollution, acid rain, ozone depletion, build up of green house gases have been a matter of great concern. Physical condition of the earth has been worsening year after year.
- Rapid industrialisation and urbanisation have created several problems including filthy slums and traffic congestion. Is it not necessary to prevent the influx of people from rural areas to cities by providing employment opportunities, educational, health and other facilities and a decent living in rural areas?
- While on the one hand we have launched our own satellites into space, there are many villages in our country without potable drinking water throughout the year and without all weather approach roads.
- Unless we do something in a determined fashion, 52 per cent of the illiterate persons in the world by the year 2000 will be in India alone.
- It is sad, but true that 42 years after independence, we still have 6 lakh scavengers in the country engaged in clearing dry latrines. The dream of Gndhiji to bring about complete "Bhanga Mukti" is still to be achieved. Though surprising, 85 per cent of our people have not yet seen the face of a latrine.
- Growing unemployment amongst both the educated and the uneducated is a challenge to which we must respond. Growth of employment over the past two decades has at an average been lower than the



rate of growth in the labour force. The employment content of economic growth has been steadily declining from one quinquennium to another.

The recently ended Gulf war will have a profound impact not only on the Indian economy, but on the world economy at large. The crisis has once again brought into focus the necessity for our country to become self-reliant in various sectors of our economy so that we get at least somewhat insulated from external economic shocks. Time has come to review our policies and strategies towards development. Here, our rural sector and the scientists engaged in this area including all of you have a vital role to play.

The founding fathers of our great Nation carried on the struggle for independence with the dream of setting up a Sovereign Socialist Secular Democratic Republic in which all citizens will be able to enjoy Justice, Liberty, Equality and Fraternity assuring the dignity of the individual and the unity and integrity of the Nation. These noble principles have been enshrined in the Preamble to our Constitution. During recent years, some of these basic values on which our nation has been built have been coming increasingly under stress. It is the duty of our younger generation to protect these basic principles.

I have listed out some of the challenging problems facing our country not with a view to paint a bleak picture, but to focus attention on the complex set of interrelated issues to which solutions will have to be found by our young friends, who will be coming out into the world of work from the academic cloisters of this University after receiving their degrees today.

To remove disparities and to provide economic and social justice and a decent living to the millions of masses in the country is the real challenge. To achieve this what is needed is a new philosophy based on our experience and appropriate Technology to take care of the small and the smallest.

There are 5,57,137 villages in India as per the 1981 census. Out of this, 4,06,723 villages, namely, 73 per cent of the villages have a population of less than one thousand. Almost 50 per cent of the villages have a population of less than 500. To provide all basic amenities to a large number of small villages is a very costly proposition. One of the things which we can think of is regrouping a cluster of small villages into a single big habitation. Such an experiment was successfully carried out in Kenya and became known as the "Ujama Experiment." This approach can substantially reduce the money which we have to spend to provide various infrastructural amenities like health, education, power, etc. A village or a cluster of villages having regard to the natural conditions has to be treated as a unit for planning and integrated development. Top priority for integrated rural development ought to be the direction of our planning. This is possible only with the total participation of the people in the process of development.

Agricultural research needs to be reoriented with a pro-poor bias. In our country, traditionally, the poor people's diet consists of coarse cereals like bajra, tapioca etc. We should find methods to increase the productivity of these cereals also. The point I wish to make is that even agricultural research is not neutral. We should always ask the question "who will be benefited?" — "will this benefit the poorest of the poor in our country?"

We need to give priority to minor irrigation planned for mini watersheds. Major or medium irrigation projects should be allowed, wherever their requirement is imperative and unavoidable only after a very careful scrutiny. Proper rehabilitation of oustees in the beneficiary zone and at least five times additional green cover must be a condition precedent before allowing any new major or medium irrigation projects. Our aim should be to conserve every drop of water wherever it rains and prevention of soil erosion through proper water and soil management. In this regard our approach is very clear. I call it "DAEE" Programme—

- Development (D)
- Asset Generation (A)
- Employment Creation (E)
- Environmental (E)  
Protection

With an anticipated population rise earmarked at 105 crores by the turn of the century, the foodgrain requirement is envisaged at 240 million tonnes — an increase of about 50 per cent of our current production. This is a conservative estimate. As I had mentioned earlier, the moment additional purchasing power is put in the hands of our poor people, the country will find it difficult to remain self-sufficient in foodgrains for long. To meet this challenge and achieve a breakthrough in agricultural productivity, we need to lay greater emphasis on higher water use efficiency. Agro-technical scientists in advanced countries have evolved micro irrigation systems since the sixties. These have been adapted to vastly different agro climatic conditions in several arid countries such as the Middle East, Israel, Australia and USA. Under drip irrigation, increase in yield upto 230 per cent have been recorded. The input cost of fertilisers, weedicides, pesticides,



power and irrigation have been also noted to decrease by as much as 30 per cent. Till now, in the name of irrigation we have been watering the land rather than watering the crops or trees. This needs to be changed to a system where we water the plants using drip or sprinkler irrigation systems. This will not only help us conserve water, but avoid damage to the soil.

The problems of rural industrialisation and rural unemployment are two sides of the same coin and while looking at one problem the other is also to be kept in mind. On the one hand, because of pressure on land we are witnessing a rural exodus to the cities in search of gainful employment. On the other hand, large wastelands are remaining unutilised, particularly when 80 per cent of our wastelands are culturable waste. The twin method of arresting this trend is taking up agro forestry, horticulture, sericulture and various such systems to make our wastelands productive and to establish industries in rural areas, particularly agro and agro process-

ing industries.

In this connection, it is worth mentioning about the special scheme launched by the Maharashtra Government for developing villages into ideal ones based on self-efforts. The scheme provides special incentives including employment to poor land holders who work on their fields to make their wasteland productive. On the basis of the local endowments, the villagers are encouraged to have their dairies, poultries, fisheries, etc.

Provision of fodder for cattle in rural areas is equally important. Since years it has been customary to graze cattle on open lands, belonging both to the Government or to the private people. Unless arrangements are made to provide fodder to protect the existing cattle, it may not be possible to protect the existing forests or the new afforestation programmes. All animals in rural areas must be stall-fed and proper arrangements to supply fodder at a reasonable price have to be made.

I have already made a mention of the problem of wastelands and the

need for developing these wastelands. At present, it is estimated that nearly 175 million hectares of land in our country has been degraded for certain reasons. Out of this, about 150 million hectares suffers from serious water and wind erosion, about 7 million hectares are affected by salinity or alkalinity, about 6 million hectares are affected by water logging, 3 million hectares by shifting cultivation and another 9 million hectares are affected by river action and other reasons. At one end a concerted Action Plan is needed on a location specific basis for reviving the utility of these land. On the one hand 50 per cent of our people are poor while on the other hand 50 per cent of our lands are wastelands. It is possible through proper management of water, land and manpower to bring together and make both of them productive. I would like to mention that the Planning Commission has resolved to make the wastelands productive so that one third of our area is brought under green cover and in the process generate employment for millions of our masses. I need not reiterate that this is a challenge for our young friends to accept.

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## UGC Coaching Scheme for Minorities

*(Contd. from page 2)*

That the target groups are not the exclusive beneficiaries of this scheme in practice is a reality which cannot be avoided. Schemes mooted exclusively for a target group attract an equal number, if not a larger one, from the non-target areas. Funded as these are from governmental agencies, it is well nigh impossible to bar the doors to a few non-target groups, lest one should thus subscribe to discriminatory practices provoking the wrath of the non-denominational dominant groups. Minority institutions and schemes cannot be catered exclusively for minorities. The constitution does not provide it that way in the true spirit of Art. 29 Clause 2, as citizens cannot be denied admission to government-sponsored schemes on the basis of religion or caste. A sprinkling of outsiders is the accepted fact of admission in the minority institutions and schemes. Moreover the presence of the brighter elements from the non-target groups sharpens the edges of competitiveness paving the way for better performance and excellence.

## Management of Affiliated Colleges

*(Contd. from page 11)*

position similar to that of The Registrar's position in the Act.

### Conclusion

The paper has analysed the relationship of university and affiliated colleges during East India Company, British India and Free India. The relationship has been transformed from the college being primary organisation into that of secondary organisation and university has become primary organisation. Now the relationship is that of superior-subordinate between the university and the affiliated college. Beginning with university Education Commission ending with latest report on the Management of Universities have suggested various administrative mechanisms for the effective management of affiliated colleges. The universities should change their relationship with affiliated colleges from that of administration of affiliated colleges into the management of affiliated colleges.



# Centre for Atmospheric Sciences IIT, Delhi

The Centre for Atmospheric Sciences at the Indian Institute of Technology, Delhi was established with the objective of developing numerical models for atmospheric and oceanic processes in the context of monsoonal region. It is co-sponsored by the India Meteorological Department on cost sharing basis with a view to integrate the research programme of the centre with the requirements of the National Weather Service. The Centre is now well established as an advanced Centre for providing higher training in a variety of areas related to meteorology and oceanography having a direct relevance to the urgent national needs. It is considered not only one of the premier Centres in the country in the field of numerical modelling in Atmospheric and Oceanic Sciences but also it compares well with many International Organisations/Centres active in this area.

One of the significant features of

model (for short range weather prediction)

- Long-range forecasting of rain-fall
- Storm surge prediction
- Air-sea interaction & ocean-atmosphere coupled modelling
- Climate modelling
- Mesoscale modelling/Mountain waves
- Air pollution studies
- Risk assessment techniques related to airborne accidental release of toxic chemicals/inflammable materials.

India has now acquired a super-computer for undertaking work related to the medium range weather forecasting and the Centre for Atmospheric Studies is the premier Centre in this area in the country.

The Ph.D. programme of the Centre has attracted talented and highly motivated students. The curriculum of the programme has been constantly monitored and modified

The Centre has set up a 30-meter micro-meteorological tower for collection of meteorological data. The Centre has a Mobile Laboratory to collect air samples which is used for validation of the air quality models. The Centre also has a Computing Laboratory (HP-1000 Computer), wet and dry Air Pollution Laboratories and a Synoptic Laboratory.

Research programmes in key areas of national relevance funded by sponsoring agencies form an important component of the activities of the Centre. It should be emphasized that the Centre is able to supplement its normal grants through funds generated from both Governmental Research funding agencies as well as from user agencies for need based fundamental and developmental research.

One of the major roles of the Centre has been to orient research interests of some of the active meteorologists and oceanographers in the country to take up problems of national relevance and to create specialised manpower in the field. This task has been taken up by organising a number of important seminars, symposia, workshops and short-term training courses.

With a view of keeping abreast of the latest developments and to cooperate in the efforts of developing new techniques, the Centre has developed fruitful collaborative arrangements in the areas of atmospheric and oceanic sciences with some of the leading Institutions and Universities in USA, USSR and France. The Centre has also established academic and research co-operation with leading organisations in India like the India Meteorological Department; Indian Institute of Tropical Meteorology, Pune; National Institute of Oceanography, Goa; Meteorology Directorate of Indian Air Force; Meteorology and Oceanology Directorate of Indian

## CAMPUS NEWS

the Centre's academic programme is the research activities. The Centre has, over the years, deliberately attempted to provide a framework for various academic groups to undertake major research projects in the thrust areas related to atmospheric and oceanic sciences. Some of the major areas of thrust are :

- Monsoon studies
- General circulation modelling (for medium range weather forecasting and climate simulation)
- Regional weather prediction

to keep pace with modern developments to meet the immediate as well as the long-term needs of the country. Besides the regular students in this programme, a number of Ph.D. students are sponsored by the India Meteorological Department; Indian Air Force; Department of Science and Technology; Ministry of Environment & Forests; Indian Space Research Organisation; etc.

Over the years, the Centre has developed excellent infrastructural facilities for research and training.



Navy; Ministry of Environment and Forests; Space Application Centre, Ahmedabad; Central Board for the Prevention and Control of Water Pollution, New Delhi; National Environment Engineering Research Institute, Nagpur; etc.

The Centre is actively involved in various national programmes launched by the Government of India. The major ones include National Plans of the International Geosphere-Biosphere Programme (IGBP), World Climate Research Programme (WCRP), Tropical Ocean and Global Atmosphere (TOGA), Indian Expedition to Antarctica, Monsoon Trough Boundary Layer Experiment (MONTBLEX), Indian Middle Atmosphere Programme (IMAP), etc. The Centre has also been associated with the formulation of the plans for setting up of the National Centre for Medium Range Weather Forecasting (NCMRWF).

The major thrust in the next decade would be given to the development of coupled Ocean-Atmosphere model which would be useful for Medium Range Weather Forecasting and Climate Simulation studies. The centre proposes to prepare a storm surge atlas for the Indian coastal regions for objectively estimating the surge heights and the extent of coastal inundation. It is also proposed to initiate a programme on tracer release like SF<sub>6</sub> in the atmosphere for formulation of dispersion parameters relevant to the tropical environment. This would help in development of operational models for environmental impact assessment and emergency preparedness. Another area of thrust is related to the determination of safe distances for all the toxic chemicals in common use and stored in large quantities in the country, by means of appropriate

mathematical models. This would help non-specialists to take quick decision in emergencies for evacuation purposes.

### **Punjabi Varsity to Introduce New Courses**

The Syndicate of the Punjabi University, Patiala, on the recommendations of the academic council, has accorded its approval for starting of new courses such as M.A. (Religious Studies), Job-Oriented Diploma Course in Pharmacy (Damdama Sahib), Microbial and Food Technology (University Campus), Computer Applications (University Campus and Talwandi Sabo). It also gave its permission to continue three diploma courses — Library Science, Management of Public Enterprises and Public Relations and Advertising - and B.Ed. through correspondence. The other new courses to be started include certificate course in Urdu and Persian (Malerkotla), diploma course in Remote Sensing (University Campus), diploma in publication and Proof Reading (through correspondence) and certificate course in application of statistics (Univer-

sity Campus). It also agreed to convert the four-year oriental course (prajna, vishard and shas-htri-part I and II) into a five-year degree course.

The Syndicate also approved to extend affiliation to the Rural Institute of Engineering and Technology to start B.E. Course and Master's course in sports coaching, being run by the N.I.S., Patiala.

### **Openings at Manipur University**

The University of Manipur has recently set up the Departments of Bio-Chemistry and Computer Science. The university requires the services of expert teachers to run these departments and guide the young teachers. It has expressed its willingness to offer contract appointments for periods ranging from one to three years. Professors who have recently superannuated will also be considered for such appointments. Interested teachers may send their curriculum vitae to the Vice-Chancellor, Manipur University, Canchipur, Imphal -795 003, Manipur.

## **News from Agril. Universities**

### **New Projects for HPKV**

A research project entitled "Epidemiology and immunodiagnosis of chlamydia psittaci infection in sheep and goats, has been sanctioned to Himachal Pradesh Krishi Vishvavidyalaya under US-India Fund by the Indian Council of Agricultural Research for a period of three years. The total budget sanctioned under this scheme is

Rs. 22.81 lakhs. The project will start functioning under the control of Dr. Dhanwanter Singh, Principal Investigator, College of Veterinary & Animal Sciences.

The main objective of the project will be to investigate the prevalence and distribution of chlamydial infections in sheep and goats and other domestic animals.



Another Project on Maggar Bamboo, where Selection and Clonal multiplication of Elite seedling is to be done, has also recently been started under the auspices of the College of Agriculture.

Under the Directorate of Extension Education one "Farmers' Training" project has recently been sanctioned by US Aid at a total cost of Rs.2.47 lakhs.

## News from UGC

### Countrywide Classroom Programme

Between 1st August to 10th August, 1991 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The Programme is available on the TV Network throughout the country.

#### 1st Transmission

1.00 p.m. to 2.00 p.m.

**1.8.91**

"Reaching Out"  
"A Learning Look at WGBH - BOSTON"

**2.8.91**

"Comet Austin"  
"The Shadows of Thought"  
"The Flying Lily"

**3.8.91**

"Artist Against Communalism - III"  
"Interactive Video"  
"Looking at Paintings - I"

**4.8.91**

No Telecast

**5.8.91**

"Optical Alignment - II"  
"Epidemiology - A Health Tool"  
"Groundnut Production - Improved Technology for Higher

Yields - II"

**5.8.91**

"Mechanism of an Organic Reaction"  
"Transport"  
"Defeating the Invincible"

**7.8.91**

"Albert Einstein"  
"Womens' Studies in India - I Challenges & Perspective"  
"Human Genetic Diseases"

**8.8.91**

"Rails"  
"Oral Folk Tradition - VIL-PATTU"  
"Towards Better Spoken English - IV Word Accent"

**9.8.91**

"S.R. Ranganathan - The Father of Modern Library Science"  
"Getting Along With Others"  
"Nature's Comeback China"

**10.8.91**

"Artists Against Communalism - IV"  
"East West Rhythms"  
"Indian Miniature paintings"

#### 2nd Transmission

4.00 p.m. to 5.00 p.m.

**1.8.91**

"Reaching Out"  
"A Learning Look at WEBH - Boston"

**2.8.91**

"Quasi Crystals - Beyond Conventional Symmetry"  
"Years After Independence"  
"Learning From Nature - II : Back to Nature"

**3.8.91**

"A Talk With Prof. Mock"  
"East Meets West"  
"Musical Notes and Their Origin"

**4.8.91**

No Telecast

**5.8.91**

"An Introduction to Architecture"  
"Contract Act - III"  
"Seed Processing"

**6.8.91**

"Using the Heat of Combustion Apparatus"  
"Communication Satellites"  
"AIDS - I"

**7.8.91**

"Solar Research - IV"  
"Satavahana Coins"  
"Principles of Biosystematics - III: The Practice of Classification"

**8.8.91**

"Computer in Distance Education"  
"Le Metro"  
"Shakespeare in Rajasthan"

**9.8.91**

"S.R. Ranganathan - The Father of Modern Library Science"  
"Getting Along With Others"  
"Nature's Comeback China"

**10.8.91**

"Youth and Frustration"  
"Non-Industrial Glazed Pottery and Its Development in India - I"  
"Wiring Household Plugs"



## UGC Fellowships for Afro-Asian Scholars

The University Grants Commission (UGC) has selected 35 foreign scholars of 16 developing countries from Afro-Asian region for the award of junior research fellowships and research associateships in science, engineering and humanities including social sciences. Of these, 33 are junior research fellowships and two research associateships.

The selected foreign scholars are from Afghanistan (3), Bangladesh (2), Burma (1), Egypt (1), Indonesia (2), Iran (6), Iraq (1), Jordan (2), Kenya (1), Lebanon (1), Nigeria (6), Somalia (1), Sri Lanka (4), Sudan (1), Tanzania (1), and Thailand (2).

The Commission annually offers these awards which include junior research fellowships for doing research leading to M.Phil/Ph.D. degree, and research associateships for doing post doctoral research to foreign nationals from developing countries and provides financial assistance through the Universities and institutions in which they are placed.

## Emeritus Fellowships for 17 Scholars

The University Grants Commission (UGC) has awarded Emeritus Fellowships to 17 eminent scholars from 10 universities and two colleges. The selected scholars are : Prof. Y.D. Tyagi (Botany) and Prof. H.B. Tiwari (Zoology), Mohanlal Sukhadia University, Udaipur; Dr. M.L. Mathur (Mechanical Engineering), University of Jodhpur, Jodhpur; Prof. N. Mohan Murali (Bio-medical Engineering), Prof. Isaac Sequeira (English) and Prof. T. Navaneeth Rao (Chemistry), Osmania University, Hyderabad; Prof. K. Samba Murthy (Pharmaceutical

Science), Prof. V. Laxminarayan (Physics), Andhra University, Waltair; Dr. G.S.Das (Economics), Utkal University, Bhubaneswar; Prof. N.S. Bose (History), Jadavpur University, Calcutta; Prof. D.P. Barooah (Political Science), Gauhati University, Guwahati; Prof. A.K. Banerjee (Journalism) and Prof. H.C. Nayyar (Urdu), Banaras Hindu University, Varanasi; Prof. Bh. Krishnamurthi (Linguistics), University of Hyderabad, Hyderabad; Prof. S.S. Majithia (Hindi), Bhavnagar University, Bhavnagar; Prof. A. Shanmugasundaram (Electrical Engineering), P.S.G. College, Coimbatore and Dr. S.P. Sathe (Law), I.L.S. Law College,

Pune.

The Emeritus Fellowship award is offered with a view to utilize the services of highly qualified and experienced superannuated professors in universities who have been actively engaged in research and teaching improvement programmes of the UGC in the preceding years, to enable them to pursue active research in their field of specialisation. The fellowship is tenable for a period of two years or upto the age of 65 years, whichever is earlier. Besides superannuation benefits, the fellowship carries a fixed honorarium of Rs.4,000/- per month and a contingent grant of Rs.10,000/- per annum.

## News from Abroad

### ASCEND 21

ASCEND 21 is the forthcoming conference on the Agenda of Science for Environment and Development into the 21st century. The Conference, which will be hosted by the Federal Government of Austria and will be held at the Vienna International Centre from the evening of 24 November to the afternoon of 29 November 1991, is being organized by International Council of Scientific Unions (ICSU) in cooperation with the Third World Academy of Sciences (TWAS).

The Conference aims at bringing together the views of the world's scientific community on the priority issues for the Science Agenda for the next 10-20 years and on the basis of these provide a consolidated contribution to the United Nations Conference on Environment and Development (UNCED) on the one hand and a perspective for future developments of international science on the other. The ASCEND 21

Conference will build on the experience of a number of earlier meetings, notably the one held in Bergen in May 1990, the preparatory process for the 1992 UNCED.

Some 200 persons are expected to be invited in their personal capacity to participate in the Conference. Participants will be selected on the basis of their scientific expertise of relevance to the Conference topics. They will come from all parts of the world, and a special effort will be made to invite younger persons and women. Included in the list of participants will be a significant number of persons from the natural and human sciences, industry and engineering.

The themes for ASCEND 21 derive directly from those being addressed by UNCED. In order to achieve as comprehensive a presentation as possible of the scientific aspects of the complex problems of



environment and development, three groupings of themes are proposed in the preliminary agenda. The final agenda for the Conference will be drawn up by the Steering Group and the ASCEND 21 Advisory Committee, keeping in mind the future orientation of the Conference. Topics will include: Atmosphere and Climate; Marine and coastal systems; Land and Fresh Water Resources; Global Cycles; Biodiversity and Habitat; Growth of Human Populations; Agriculture and Forestry; Industry; Energy; Waste Management; Cities; Interface Between Science, Industry and Government; Capacity Building; Quality of Life; Legal, Political Institutions and Processes.

It is proposed to invite one paper for each of the Conference themes and that each paper be written by at least two co-authors, with complementary expertise. An attempt would be made to ensure that at least one of these co-authors is from the developing world.

It is expected that other documentation prepared for UNCED will cover the state-of-the-art of current knowledge approximately 10-20 years. Authors will therefore be asked to ensure that the papers are forward-looking, with a minimum of discussion of the present state of the science. They will be asked to identify future priority issues and suggest how science can help to resolve them. Each author will be encouraged to include, if possible, sections devoted to:

- inventory of high priority research needs and issues
- needs for observation and data collection
- analytical and mathematical tools required
- modalities of communication of research results to decision-makers
- proposals for communication of

results to non-scientific public

- means to attract, train and retain first rate scientists in the field
- proposals for appropriate institutional arrangements
- modalities for international co-operation.

The direct outputs of the Conference will be:

(a) a Conference statement based on the deliberations at ASCEND 21, with recommendations, to be available by mid-December 1991 to serve as a direct input to the UNCED process;

(b) publication of the entire proceedings;

(c) follow-up programme to be carried out by the international scientific community.

### Smith Report on Canadian Higher Education

Canadian universities have come in for stinging criticism from a commission of inquiry into higher education. Teaching standards, technological innovation and student dropout rates are among the problem areas highlighted.

Stuart Smith, who conducted the one-man inquiry for the Association of Universities and Colleges of Canada, after listening to more than 200 presentations and receiving 250 written briefs at 10 public hearings across the country, found that:

- Teaching excellence is largely ignored in favour of research publications when it comes to promotion and tenure for lecturers;
- Innovation in technology and in use of novel teaching methods is uncommon;
- The attrition rate is far too high, especially for first-year students;
- Faculties of education and

higher education research suffer low prestige;

- Women, the disabled, native Canadians and low income groups are clearly under-represented;
- Average classroom teaching loads of around seven hours a week are considered unreasonably low;
- It takes an "inordinately long time" to obtain a PhD degree—an average of nine years after receiving a humanities first degree;
- Services for part-time students, who make up a significant and growing proportion of the student body, are insufficient.

Dr Smith, a psychiatrist, former university professor and former chairman of the Science Council of Canada said that aside from underfunding, the most frequent complaint and most controversial issue was "publications versus teaching".

"I was astonished at the degree to which research and publications have become the royal road to success at universities and the degree to which teaching excellence has become unimportant." He perceived "deep cynicism" among faculty concerning the real importance accorded to teaching.

All universities place a high value on scholarship as a criterion for promotion but some only accept research publications as evidence of such scholarship. Teaching is valued more highly only at small universities that have few or no graduate programmes.

Dr. Smith says there are indications of movement towards a more balanced situation, and the commission is seeking a mechanism by which such balance may be encouraged and monitored.

He expressed concern about the number of courses where teaching and most tutorials are handled by teaching assistants, and the lack of



contact between tenured faculty, who have the most to offer, and undergraduates.

He recommends that all teaching assistants and PhD candidates receive some teaching training and supervised opportunities to practice their skills. Student ratings of teaching are "extremely important" and should be universal and taken seriously.

There is no doubt, Dr Smith says, that Canadian universities are underfunded compared to those in the US. The effect of financial restraint has made crowded classrooms and outmoded equipment a common sight on campuses. Lack of funds have also made new programmes difficult to introduce, even in such high-need areas as accounting and nursing.

Civil servants asked for their views on university funding were overwhelmingly critical of universities' "resistance to change and unwillingness to keep up with society's education demands, particularly in the area of undergraduate teaching", Dr Smith says.

"It was clearly implied, though far from guaranteed, that some system of accountability through which both results and responsiveness could be demonstrated, would lead to a flow of additional funds."

### **UN Project on Reducing Coal Emissions**

Universities are to be involved in a United Nations research initiative aimed at reducing emissions from coal burning power plants in poor countries, especially the world's three biggest coal users — the Soviet Union, China and India.

The programme, which is being organised by the UN's centre for science and technology for develop-

ment, includes a series of conferences on environmentally sound coal technologies in the three countries followed by a round-up meeting in Germany.

According to a spokesman for the UN centre, "There is an urgent need to assess the carbon dioxide and other pollutant reduction potential of developing countries.

"Whatever steps these three countries are able to take to clean up their coal-related energy systems could have significant influence on the way other developing nations approach their own, somewhat similar fossil fuel dependencies."

China is the world's largest coal user, accounting for 27 per cent of global production. Suspended particulates are a major health hazard

in China's northern cities where annual sulphur concentrations average 740 micrograms per cubic metre (compared to just 50 micrograms in North America). India and the Soviet Union rely on coal for 38 per cent and 24 per cent of their energy requirements respectively.

The technology transfer initiative for the three big consumers necessitating considerable collaboration by specialist institutions in many countries has been launched in preparation for the UN conference on environment and development to be held in Brazil in June 1992. The UN centre hopes that it will lead to national portfolios of cleanup strategies and recommendations for improving energy efficiency, reducing harmful emissions and providing finance for research.

## **NATIONAL CRIME RECORDS BUREAU (MINISTRY OF HOME AFFAIRS)**

**EAST BLOCK-VII, R.K. PURAM**

**NEW DELHI-110066**

## **SCHEME OF CASH AWARDS FOR BEST PAPERS ON FINGER PRINT SCIENCE**

Original papers are invited from the personnel working in Police Departments at the Centre, States and U.Ts and all others working outside the Police Departments, viz, I.I.Ts, Universities, Government of India Undertakings and other private autonomous scientific and technical institutions, on research and development of finger-print science (Dermatoglyphics) related techniques and technologies of identification. The theme of the award for the year 1991-92 will be "Detection/Identification Of Scene Of Crime Fingerprints- New Methodologies". The papers may be addressed to the Director General, National Crime Records Bureau, East Block-7, R.K. Puram, New Delhi-110 066 so as to reach him by 30th November, 1991.

Papers submitted earlier for this award will not be considered. Only one paper by one author submitted individually or jointly with co-author(s) will be considered for the award. The papers are to be submitted in triplicate, clearly marking the envelope "Paper on Finger-Print Science For The Year 1991-92". The name(s) of author(s) should not be mentioned anywhere on the paper. A separate forwarding letter should be used for sending the paper and should contain the names and addresses of the author(s) along with the certificate that the paper was not submitted earlier for the NCRB awards.

The paper should be based on the in-depth study or research carried out by the author(s). There are two sets of Cash Awards of Rs. 5000/-, Rs. 3000/- and Rs. 2000/- each for Police and Non- Police Streams. The decision for the Awards will be finalised by March, 1992.

davp.91/244



## **An Eloquent but Elusive Update on Examinations**

**Arun K. Gupta\***

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**Mascarenhas, M. Examinations : An Informative Update. Delhi, Doaba House, 1991. viii, 240 p. Rs.300/-**

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The publication "Examinations : An Informative Update" is a detailed commentary on the purposes, practices, pitfalls, potential and promises of examinations.

Much has been written in the past about the different aspects of examinations both in our country and elsewhere. In the present volume, however, the subject of examinations has been covered somewhat differently by presenting 'scatter of ideas' on examinations as the author is convinced that this happens to be the 'most rewarding way of discovering a total picture of the entire examination syndrome'. (p.viii)

The volume runs into 240 pages and is divided into seven chapters with a chapter-wise bibliography spanning 15 pages at the end. In chapter I entitled 'Examinations : The Encounter', the author describes at length how examinations have become a necessary evil in our society. Holding the view that examinations 'as a form of measurement were not the spoilsport we have now come to associate them with' (p.1), Mascarenhas traces how, over a period of time, examinations have become summumbonum of

our educational process, reducing human freedom and aspirations, democratic values and creative impulses to 'tatters'. Examinations, asserts the author, must be modified to encourage cooperation, nonconformity and learning in "crisis situations while tolerating conditions of enhanced competitiveness" (p.20).

Chapter II entitled "The Indian Connection" concerns itself with the history of examinations in India right from the ancient times to the implementation of the New Education Policy. Recommendations made by numerous committees and commissions right up to the documents concerned with National Policy on Education and its review by Acharya Ramamurti Committee have been given. The author however, does not sound very optimistic about the prospects of radical restructuring of examinations in near future.

"The Vexatious Question of Intelligence Quotient" has been tackled in Chapter III. "What do marks measure"? and "What do psychological tests measure and how scientifically do these do so?" are two important issues discussed by Mascarenhas. The readers are taken on a journey in time regarding evolution of psychological tests and a critical appraisal about their

reliability, validity, applicability, diagnostic and prognostic value by some leading authorities. The author denounces the dependancy upon IQ tests and advocates a "gardner's approach" characteristic of humanist psychologists who 'understand and respect individual differences yet nurture the children through love, encouragement and compassion without undue intimidation or interference (examinations)'. (p.95)

In Chapter IV, the author discusses the stumbling blocks in the way of making evaluation process objective due to linguistic disability and other related factors. Contending that not all children come to school with the same backlog of experiences, abilities and powers of observing, thinking, speaking, listening, reading and writing (p.97), the author digresses from the main theme to make a forceful case for compensatory education. The author would prefer to use objective type tests especially for those students who are deficient in 'verbal sophistication'. The interpretation of the tests needs therefore to take into account the whole context of the child, the test, his motivation and the life" (p.20). However, how this can be achieved is not discussed.

"How fair and therefore how useful in schools which use them, are the scores that are awarded?" "What do they finally indicate?" are the basic questions taken up for discussion in Chapter V entitled "The Incogruity of Marking". The author compares marks versus grades bringing out their relative merits and demerits. The modern concepts namely 'Programmed learning', 'Micro teaching', 'Non-graded schools', 'Internal assessment', 'Home instructions', 'Deschooling' are next suggested as alternatives to the examination system—as means to improve the

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*\*Director, Model Institute of Education and Research, B.C. Road, Jammu - 180 001.*



quality of learning.

In Chapter VI, "The Browning of the System", the writer has taken pains to show how examinations have hardened into a matter of survival and how 'jobs, economic progress and social status have depended so much on them' in India. He calls for the need to introduce accountability for 'quality assurance' (p.179). Launching a fierce tirade against unethical administration of public examinations, the author highlights the role of reservation policy and biased books as correlated of examination ills. Are there any remedies for browning? "Perhaps an alternative will be found" says the author. Till then, "we can only strive to reduce the abuses that have penetrated the examination and to make it more appropriately just in its implementation" (p. 203).

The last Chapter "How Equal is Equal in Education?" (Chapter VII) deals with the concept of equality in education. Equality, to Mascarenhas, is less a case of identity of treatment than an 'equality of concern for each' individual (p.204). The author dwells upon major factors responsible for inequality in education namely, poverty, public versus private schools, length of schooling, family background etc, and then shows how examinations contribute to inequality of educational opportunities (p.211).

In the final analysis, Mascarenhas has tried his best to bring out that an examination 'is not only the questions set; it is a complex of several factors that make it meaningful, ethical, socio-economic, philosophical and political." (p. 224) In doing so, he has been ambitious to cover a large canvas, probably larger than what could be deftly handled by him. If the objective of the author was to provide an 'information update' on examinations, as

the title of his work suggests, the author has largely succeeded in his basic objective. He has not only laboured to sift the vast literature on the topic but has provided important insights into the different issues concerning examinations in a non-technical and holistic manner which can be cited as a plus point from the point of view of readers in general. The author is well read and shows a fair capacity to disagree with others' viewpoints, and express his own ideas in a literary and forceful style. At the same time, a perceptive reader cannot but discern a contradiction between Mascarenhas 'professed' objective - that of providing an information update on examinations and his 'real' objective - to provide personal views and appraisal of the trends, practices, suggestions and viewpoints regarding examinations. As a result of this dichotomy, the impact of the work has suffered in that neither of the objectives has been realized fully.

Keeping the central theme of examinations in mind, the organization of seven chapters leaves much to be desired. The reviewer could not fully appreciate the basis of chapter organization as there is no apparent progressive link between one chapter and the other. Nor is there a logical conclusion something which would have enhanced the valued of the work. As a result of this, the chapters remain isolated gemstones without being given the

shape of a well designed necklace. Not only this, the main themes taken up in different chapters have to been sustained. The author often digresses from the main theme which discerning readers might not appreciate.

Further, while developing his arguments, Mascarenhas invariably refers to other writers and authorities in somewhat casual manner as if referring to colleagues and friends. The manuscript, though better edited than average Indian academic publications, still retains some printer's devils (e.g. gradepoint average calculations on page 146, "Misra analysis the Indian situation" (p.158) etc.). Pricewise, a sum of Rs. 300/- for a book of 240 pages is likely to prove a barrier for an average pocket.

To conclude, 'Examinations: an Informative Update', though scholarly and persuasive in approach and extensive in coverage, yet lacks the stamp of authority in its conclusions and preciseness in direction. Readers who might look for some concrete guidelines to restructure examination system are likely to be somewhat disappointed since the book does not offer much in this direction. Even after going through the entire book, the examinations remain as disturbing and 'monstrous' as they are made out to be and 'examination reform' - as elusive and challenging as ever!

## INDIAN COUNCIL OF MEDICAL RESEARCH I.C.M.R. AWARDS - 1991

Indian Council of Medical Research, New Delhi extends the date upto 15th September, 1991 for submission of nominations/applications from Indian Scientists for its various prizes and awards in the field of Biomedical Sciences. Applications forms and other relevant information about the prizes can be obtained from the Director-General, Indian Council of Medical Research, Ansari Nagar, New Delhi- 110 029 (BMS-II)



# AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on Higher Education. Among the topics prominently represented are Educational Sociology, Educational Planning, Educational Administration, Teaching & Teachers' Training, Examinations, Economics of Education and Country Studies. Developing fields of Adult Education, Continuing Education and Distance Education, and Educational Technology are also well stocked. The library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of Higher Education. Files of Annual Reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to the AIU Library'.

The Library also receives about a 100 periodical titles on Higher Education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research Scholars and students of education are welcome to use these resources. The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

## RESEARCH IN PROGRESS

### A list of Research Scholars registered for Doctoral Degrees in Indian Universities

#### PHYSICAL SCIENCES

##### Mathematics

1. Selvaraj, C. Some problems regarding endomorphism modules of finite projective dimensions. Kerala. Dr M I Jinnah, Department of Mathematics, University of Kerala, Kariavattom.
2. Thomas, Biju. Algebraic theory of semi-groups. Kerala. Dr A R Rajan, Reader, Department of Mathematics, University of Kerala, Kariavattom.
3. Tiwari, Madhu. A study of generalised hypergeometric function. Devi Ahilya. Dr C L Parihar, Prof, Department of Mathematics and Statistics, Holkar Science College, Indore and Dr C K Dave, Prof and Head, Department of Mathematics and Statistics, Holkar Science College, Indore.
4. Valsala, P L. Some operation semi groups on locally convex spaces. Kerala. Dr K S Subramonian Namboodiripad, Prof and Head, Department of Mathematics, University of Kerala, Kariavattom.

##### Statistics

1. Bhaskar, Aithal Uppinakudru. A study of higher order asymptotic properties of the estimators. Shivaji.

##### Physics

1. Bhad, Vijaykumar Vishwanath. Studies on preparation and characterization and properties of tin-di-sulphide films. Shivaji. Dr C D Lokhande, Department of Physics, Shivaji University, Kolhapur.

hapur.

2. Bhosale, Jalindar Laxman. Structural, electrical and magnetic properties of cobalt-copper ferrites. Shivaji. Dr B K Chougule, Department of Physics, Shivaji University, Kolhapur.
3. Gopchandran, K G. Structure and properties of thin films. Kerala. Dr V K Vaidyan, Department of Physics, University of Kerala, Kariavattom.
4. Jaya, A S. A study of the equatorial ionosphere. Kerala. Dr S R Prabhakaran Nayar, Reader, Department of Physics, University of Kerala, Kariavattom.
5. Kulkarni, Sunil Giridhar. Development of humidity sensor using soft ferrites. Shivaji. Dr A S Vaingankar, Department of Physics, Shivaji University, Kolhapur.
6. Maskar, Pandurang Keshav. Electrical and magnetic properties of tetravalent ion substituted Ni -Zn and Mn -Zn ferrites. Shivaji. Dr S R Sawant, Department of Physics, Shivaji University, Kolhapur.
7. Newport, Jayanth Kiruba. Raman infrared and dielectric studies of crystals. Kerala. Dr G Aruldas, Prof, Department of Physics, University of Kerala, Kariavattom.
8. Patil, Mahadeo Pundlik. Studies on CdSe Te semiconductor septum solar cells. Shivaji. Dr S H Pawar, Department of Physics, Shivaji University, Kolhapur.
9. Patil, Satish Nilkanth. Studies on the growth of single crystals of some tartarate compounds in gels. Shivaji. Dr A V Rao, Department of Physics, Shivaji University, Kolhapur.



10. Pawar, Dadasaheb Vithalrao. Investigation on certain ferroelectric properties of lanthanum oxide doped sodium vanadate and rubidium vanadate. Shivaji. Dr S H Chavan, Department of Physics, Shivaji University, Kolhapur.

11. Raikar, Uday Shantaram. Force constant calculations in polyatomic molecules. Shivaji. Dr M K Soudagar, Department of Physics, Shivaji University, Kolhapur.

12. Ratheesh, R. Investigation of crystal structure using Infrared and Raman Spectra. Kerala. Dr V Unnikrishnan Nayar, Prof, Department of Physics, University of Kerala, Kariavattom.

13. Ratna Kumari Amma, K. Computation of RRI useful in tropospheric communication and water requirements of crops in Kerala Meteorological parameters. Kerala. Dr G Renuka, Reader, Department of Physics, University of Kerala, Kariavattom.

14. Shedam, Mahadev Ramchandra. Studies on growth of single crystals of some intermetallic compounds in gels. Shivaji. Dr A V Rao, Department of Physics, Shivaji University, Kolhapur.

15. Tonape, Mallappa Mahadev. Studies on electrolytic deposition of Y-Ba-Cu alloy films and their conversion into high Tc superconductors. Shivaji. Dr S H Pawar, Department of Physics, Shivaji University, Kolhapur.

16. Varma, V K Meena. Solar wind magnetosphere coupling. Kerala. Dr S R Prabhakaran Nayar, Reader, Department of Physics, University of Kerala, Kariavattom and Dr V V Somayajulu, Head, Space Physics Laboratory, Vikram Sarabhai Space Centre, Thiruvananthapuram.

17. Vijayakumar, K. Energy resources and alternatives for Kerala. Kerala. Dr V K Vaidyan, Department of Physics, University of Kerala, Kariavattom.

#### Chemistry

1. Asha, S. Synthetic studies in heterocyclic chemistry. Kerala. Dr K Rajasekharan, Prof, Department of Chemistry, University of Kerala, Thiruvananthapuram.

2. Bahulayan, D. Photochemistry of nitro-aromatics. Kerala. Dr C P Joshua, Prof, Department of Chemistry, University of Kerala, Thiruvananthapuram.

3. Balachandran, S. Studies on the kinetics of substitution and elimination reactions of some aralkyl chlorides. Kerala. Dr N Rajasekharan Nair, Prof, Department of Chemistry, University of Kerala, Trivandrum.

4. Basutkar, Prabhakar Harikisan. Synthesis and characterisation of high temperature resistant polymers. Shivaji. Dr N N Maldar, Department of Chemistry, Centre for Post Graduate Studies, Solapur.

5. Binu, R. Amidinothiureas in heterocyclic synthesis. Kerala. Dr K Rajasekharan, Prof, Department of Chemistry, University of Kerala, Thiruvananthapuram.

6. Chougule, Mahavir Annu. Studies on the structure of polysaccharide present in mucilage of plant seeds. Shivaji. Dr A K Gupta, Department of Chemistry, Shivaji University, Kolhapur.

7. Deshmukh, Dilip Shamrao. Synthesis of some new quinazoline derivatives. Shivaji. Dr M B Deshmukh (Hogale), Department of Chemistry, Shivaji University, Kolhapur.

8. Hongekar, M L. Kinetics and mechanism of oxidation of some aliphatic acid hydrazides by hexacyanoferrate (III) in acidic medium. Shivaji. Dr J B Patil, Department of Chemistry, Shivaji University, Kolhapur.

University, Kolhapur.

9. Karthikakutty Amma, M. Effects of continuous cultivation of rubber. Kerala. Dr R S Iyer, Prof and Head, Department of Soil-Science and Agricultural Chemistry, College of Agriculture, Velayani.

10. Shah, Sanjaykumar Sumantlal. Studies in some analytical reagents for iron. North Gujarat. Dr J D Talati, Arts, Science and Commerce College, Pilvai.

11. Sharma, Suchitra. Studies on thermal and mechanical properties of polymer blends. Delhi. Dr R Chandra, Delhi College of Engineering, Delhi.

12. Sheela, M S. Enzyme analogue built polymers: Use of optically active and polar cross linking alpha agents in developing solid phase organic reagents. Kerala. Dr K Sreekumar, Lecturer, Department of Chemistry, Thiruvananthapuram.

13. Shelke, Rajaram Govindrao. Studies on the solute-solvent interactions in aqueous and mixed media. Shivaji. Dr M D Bhand, Department of Chemistry, Shivaji University, Kolhapur.

14. Sreedhar, M K. Sorption studies on saw dust for wastewater treatment. Kerala. Dr T S Anirudhan, Lecturer, Department of Chemistry, University of Kerala, Trivandrum.

15. Ubale, Deelip Baburao. Studies on charge transfer (CT) complexes. Shivaji. Dr S K Haibatti, Department of Chemistry, Shivaji University, Kolhapur.

16. Zambare, Dnyandeo Namdev. Extraction chromatographic separation of some metals with substituted crown ethers. Shivaji. Dr B S Mohite, Department of Chemistry, Shivaji University, Kolhapur.

#### Earth Sciences

1. Badri Prasad, Suryadevara. Geo-chemistry and petrogenesis of carbonatites and associated rocks of Siriwasan-Wakal area, Lower Narmada, Gujarat. Vikram. Dr A C Chatterjee, Prof and Head, Department of Geology, Vikram University, Ujjain.

2. Chaturvedi, Sunil. Study of ground water resources of Newaj river basin, Rajgarh District, M P. Vikram. Dr Pramendra Dev, Reader, Department of Geology, Vikram University, Ujjain.

3. Choubey, Narendra Kumar. Applications of air borne and satellite data in natural resources-study of upper Narmada Valley, M P. Vikram. Dr K K Singh, Chancellor, Jiwaji University, Gwalior.

4. Jairaj Singh. Exploration model for Himalayan Terrain: A case study of Askote Polymetal deposit. Vikram. Dr K K Singh, Chancellor, Jiwaji University, Gwalior.

5. Karkhadkar, Abhijit. Petrology of Deccan Traps of Katwad-Chaktala Region, Distt Jhabua, M P. Vikram. Dr A C Chatterjee, Prof and Head, Department of Geology, Vikram University, Ujjain.

6. Soni, Dilip Kumar. Geomorphological analysis in parts of Narmada Catchment area of Khandwa, Khargone, Noshangabad and Dewas Districts of M P through integrated remote sensing with special reference to erosion intensity assessment. Vikram. Dr K K Singh, Chancellor, Jiwaji University, Gwalior.

7. Vyas, Shailendra. Study of ground water resources of Narsingharh Region, Rajgarh District, M P. Vikram. Dr Pramendra Vyas, Reader, Department of Geology, Vikram University, Ujjain.

#### Engineering & Technology

1. Anand, A S. Development of ferrocement roofing elements



for housing applications. Delhi. Dr F S A Aewal, Delhi College of Engineering, Delhi and Dr K V John, Delhi College of Engineering, Delhi.

2. Chappaon, Ashok Narasinha. **Design fabrication and performance analysis of solar thermal power generating system.** Shivaji. Dr S H Pawar, Department of Physics, Shivaji University, Kolhapur.

3. Gadgil, Vasudeo Shripad. **Speech synthesis and recognition for process control.** Shivaji. Dr S R Sawant, Department of Physics, Shivaji University, Kolhapur.

4. Garg, Govind Prasad. **Investigations of optional and near optional solutions in industrial dynamics.** Devi Ahilya. Dr A K Chitale, Prof and Head, Department of Industrial and Production Engineering, Shri G S Institute of Technology and Science, Indore.

5. Gupta, Ashok Kumar. **Use of flyash in concrete.** Delhi. Dr R K Selot, Delhi College of Engineering, Delhi and Prof K B John, Delhi College of Engineering, Delhi.

6. Kulkarni, Balwant Vasudeo. **Water management in a river system by simulation studies with reference to Krishna River Basin.** Shivaji. Dr S V Ranade, Walchand College of Engineering, Sangli.

7. Ramdasi, Prakash Ganesh. **On some computerized heuristic techniques of assembly line balancing.** Shivaji. Dr P H Waghodekar, Walchand College of Engineering, Sangli.

8. Sharma, D P. **A study of distortion effects in a contra-rotating axial compressor stage.** Delhi. Prof P B Sharma, Delhi College of Engineering, Delhi.

9. Tikekar, Anjali Narayan. **Comprehensive studies on natural convection heat transfer from vertical fin arrays.** Shivaji. Dr N K Sane, Walchand College of Engineering, Sangli.

#### BIOLOGICAL SCIENCES

##### Biology

1. Ajith Kumar, M. **Biology and ecology of palaemonid prawns of Kerala.** Kerala. Dr S D Ritakumari, Lecturer, Department of Aquatic Biology and Fisheries, University of Kerala, Thiruvananthapuram.

2. Geetha, G Baby. **Histology and histopathology of the pearl-spot, *Etroplus suratensis* Bloch (Teleostei).** Kerala. Dr S Radhakrishnan, Lecturer, Department of Aquatic Biology and Fisheries, University of Kerala, Thiruvananthapuram.

3. Jayasri, P B. **Crustacean fauna of Kayamkulam Lake.** Kerala. Dr G Saraswathy Amma, Department of Aquatic Biology and Fisheries, University of Kerala, Thiruvananthapuram.

4. Rammohan, Anuradha. **Plankton ecology of estuarine and marine regions of South-West coast of Kerala.** Kerala. Dr V Sobha, Department of Aquatic Biology and Fisheries, University of Kerala, Thiruvananthapuram.

5. Sreedhar, Biji. **Certain ecophysiological aspects of fouling organisms along the Kerala Coast.** Kerala. Dr H Surayanarayanan, Reader, Department of Aquatic Biology and Fisheries, University of Kerala, Thiruvananthapuram.

6. Supanekar, Shirishkumar Vishnu. **Impact of soil salinity on microflora and ground water pollution in Sangli District.** Shivaji. Dr P L Patil, Department of Microbiology, Willingdon College, Sangli.

7. Surendran, Meera. **Biocoenosis on algae and their economic utilization in Kerala.** Kerala. Dr V Sobha, Department of Aquatic

Biology and Fisheries, University of Kerala, Thiruvananthapuram.

8. Syleswaran Nair, R. **Studies on stream fishes of Kerala.** Kerala. Dr S D Ritakumari, Lecturer, Department of Aquatic Biology and Fisheries, University of Kerala, Thiruvananthapuram.

9. Vethanayagam, R Robert. **Biodynamic principles and chemical ecology of marine invertebrates.** Kerala. Dr K Padmakumar, Lecturer, Department of Aquatic Biology and Fisheries, University of Kerala, Thiruvananthapuram.

10. Walter, C S. **Environmental evaluation of a rocky coast along the South-West Coast of India.** Kerala. Dr K Padmakumar, Department of Aquatic Biology and Fisheries, University of Kerala, Thiruvananthapuram.

##### Biochemistry

1. Ajitha Kumari, G. **Metabolism of isoprenoid substances in filarial parasites.** Kerala. Dr R Kaleyasa Raj, Prof, Department of Biochemistry, University of Kerala, Kariavattom.

2. Aravindakshan, C. **The role of indigenous drugs in experimental urolithiasis.** Kerala. Dr N Jayathi Bai, Department of Biochemistry, Medical College, Thiruvananthapuram.

3. Mohan, S. **Studies on the fate of oxygen in filarial parasites.** Kerala. Dr R Kaleyasa Raj, Prof, Department of Biochemistry, University of Kerala, Kariavattom.

4. Pawar, Shankar Maruti. **Alteration in the biochemical levels in ophthalmic disorders.** Shivaji. Dr A N Suryakar, Govt Medical College, Miraj.

5. Sivan, V M. **Studies on certain electron transfer complexes in filarial parasites.** Kerala. Dr R Kaleyasa Raj, Prof, Department of Biochemistry, University of Kerala, Kariavattom.

6. Sudheesh, S. **Synergistic effect of pectins and condensed tannins on metabolism.** Kerala. Dr N R Vijayalakshmi, Lecturer, Department of Biochemistry, University of Kerala, Kariavattom and Dr P K Rajan, Lecturer, Department of Chemistry, University of Kerala, Kariavattom.

##### Microbiology

1. Kadam, Ravindra Ganpatrao. **Studies on biodegradation of agrochemicals with special emphasis on pesticides by actinomycetes from soils of Satara District.** Shivaji. Dr A M Deshmukh, Y C College of Science, Karad, District Satara.

2. Kishore, Mynepalli Eswar. **Studies on the stem nodule rhizobia from some wild leguminous plants.** Shivaji. Dr M B Gandhi, Department of Microbiology, Y C College of Science, Karad, District Satara.

3. Supanekar, Shirishkumar Vishnu. **Impact of soil salinity on microflora and ground water pollution in Sangli District.** Shivaji. Dr P L Patil, Department of Microbiology, Willingdon College, Sangli.

##### Botany

1. Bachulkar, Madhukar Parshram. **Floristic studies of Vasota and its surroundings.** Shivaji. Dr S R Yadav, Department of Botany, Shivaji University, Kolhapur.

2. Chavan, Sambhajirao Ramchandra. **Studies in nitrogen metabolism of groundnut, *Arachis hypogaea* L.** Shivaji. Dr P D Chavan, Department of Botany, Shivaji University, Kolhapur.

3. Patil, Bajirao Ramchandra. **Biosystematic studies in genus *Urginea* Steinh.** Shivaji. Dr S R Yadav, Department of Botany,



Shivaji University, Kolhapur.

4. Singh, Shambhu. **Biological effects of wind breaks on the productivity of crops in a Semi Arid Region.** H S Gour. Dr Pramod Khare, Department of Botany, Dr Hari Singh Gour Vishwavidyalaya, Sagar and Dr S Puri, Assoc Prof, Department of Forestry, Agricultural College, Haryana Agricultural University, Hissar.

5. Tamhankar, Pramod Chintamani. **Physiological studies in a legume, *Cyamopsis tetragonoloba* (L) Taub under influence of environmental stresses.** Shivaji. Dr N A Rajmane, Department of Botany, Willingdon College, Sangli.

#### Zoology

1. Bharmal, Deelip Laxman. **Effect of environmental factors on the reproduction of some gastropods.** Shivaji. Dr S G Nanaware,

Department of Zoology, Shivaji University, Kolhapur.

2. Gurav, Chandrakant Ananda. **Evaluation of insect parasitoids for biological control of some hairy caterpillars of economically important crops.** Shivaji. Dr T V Sathe, Department of Zoology, Shivaji University, Kolhapur.

3. Kannarathu, Valappil Ashokan. **Lipoprotein lipase and lactate dehydrogenase activities in muscles of diabetic mice fed with antioxidants.** Shivaji. Dr (Smt) M M Pillai, Department of Zoology, Shivaji University, Kolhapur.

4. Kittad, Shivappa Shivaningappa. **Structural alterations in the hepatopancreas of scorpions in reproduction and embryonic nutrition.** Shivaji. Dr N K More, Department of Zoology, Shivaji University, Kolhapur.

## THESES OF THE MONTH

### A list of doctoral theses accepted by Indian Universities

#### PHYSICAL SCIENCES

##### Mathematics

1. Dhillan, Swarup Singh. **A study of generalisation of special functions of mathematical physics and their applications.** Bundelkhand. Dr P N Srivastava, Bundelkhand University, Jhansi.

2. Goel, Pragati. **Study of flow problems on biofluid dynamics.** Roorkee.

3. Gupta, Jainendra Kumar. **A study in the degree of approximation of functions by fourier ultra spherical expansion.** Vikram. Dr Ashutosh Pathak, Department of Mathematics, Vikram University, Ujjain.

4. Gupta, Neelam. **Some studies concerning the propagation of nonlinear gasdynamic wave.** BHU. Dr V D Sharma, Department of Applied Mathematics, Institute of Technology, Banaras Hindu University, Varanasi.

5. Mahata, Siddheswar. **Inclusion problems in elasticity.** Calcutta.

6. Naveenachandran, K P. **Generalized unique factorization rings.** CUST. Dr R S Chakravarthy, Reader, Department of Mathematics and Statistics, Cochin University of Science and Technology, Kochi.

7. Sharma, Chhayya. **A study of hypergeometric functions of four variables.** Devi Ahilya. Dr R N Jain, Prof (Retd), Manorama Ganj, Near Geeta Bhawan, Indore and Dr C L Parihar, Department of Mathematics and Statistics, Holkar Science College, Indore.

8. Venkataramana Reddy, M. **A study of some porous flows.** Venkateswara. Prof P V Arunachalam, Department of Mathematics, Sri Venkateswara University College, Tirupati.

##### Statistics

1. Chitti Babu, Malladi. **On some generalized compound distributions with an application to bio-statistics.** Andhra.

2. Sharma, Mukesh Kumar. **On estimation of parameters of finite population using auxiliary information.** Punjabi. Dr S K Srivastava, Prof, Department of Statistics, Punjabi University, Patiala

and Dr H S Jhaji, Department of Statistics, Punjabi University, Patiala.

3. Sreenivasa Rao, K. **Optimal inventory policies under power pattern demand with two levels of storage.** Venkateswara. Dr K V S Sarma, Department of Statistics, Sri Venkateswara University College, Tirupati.

##### Physics

1. Ajay Kumar. **Experimental investigations on some proton conducting solids.** BHU. Prof S Chandra, Department of Physics, Banaras Hindu University, Varanasi.

2. Amarendra, Gangavarapu. **Positron annihilation studies of helium in metals and alloys.** Madras.

3. Anil Kumar. **Molecular orbital and electrostatic potential mapping studies of some biologically important molecules.** BHU. Dr P C Mishra, Department of Physics, Banaras Hindu University, Varanasi.

4. Bhattacharyya, Jyotisekhar. **Studies of gauge theories in three dimensions.** Calcutta.

5. De, Satyasankar. **Dual proton model of hadron and strong interaction dynamics.** Calcutta.

6. Ghosh, Udayan. **A study on geochronology of some crystalline rocks and minerals of the Meghalaya plateau by SSNTD technique.** Gauhati. Dr K M Pathak, Prof, Department of Physics, Gauhati University, Guwahati and Dr P K Choudhury, Prof, Department of Geology, Gauhati University, Guwahati.

7. Goswami, Ashutosh. **Optical methods for determining the refractive indices of liquids and lenses.** HS Gour. Dr M S Tomar, Department of Physics, Doctor Hari Singh Gour Vishwavidyalaya, Sagar and Prof R S Kasana, Department of Physics, Doctor Hari Singh Gour Vishwavidyalaya, Sagar.

8. Lakshminarasappa, B N. **Color center studies in sodium bromide single crystals.** Bangalore. Dr N Devaraj, Department of Physics, Bangalore University, Bangalore and Dr K N Kuchela, 146, Jayanivas, III Block, East Jayanagar, Bangalore.



9. Mani Naidu, S. X-ray crystallographic studies of some organophosphorus heterocyclic compounds. Venkateswara. Dr M Krishnaiah, Department of Physics, Sri Venkateswara University College of Engineering, Tirupati.

10. Narendra, G L. Studies on ESR and optical spectra of some transition metal and rare-earth ions doped in certain glasses. Venkateswara. Prof J Lakshman Rao, Department of Physics, Sri Venkateswara University College, Tirupati.

11. Porsezian, K. On the nonlinear dynamics of discrete and continuum spin systems. Bharathidasan. Prof M Lakshmanan, Department of Physics, Bharathidasan University, Trichy.

12. Sisodia, Pramila. Mechanical behaviour of polycrystalline materials. Vikram. Dr M P Verma, Department of Physics, Vikram University, Ujjain.

#### Chemistry

1. Agrawal, Amita. Mechanism of oxidation of ascorbic acid with metal complex ions: A kinetic study. Rajasthan. Dr P D Sharma, Department of Chemistry, University of Rajasthan, Jaipur.

2. Balasubramanyan, T M. Corrosion of concrete and reinforced concrete in chemical media. Bharathidasan. Dr K Balakrishnan, Deputy Director and Head, Corrosion Science and Engineering Division, Central Electrochemical Research Institute, Karaikudi.

3. Bhattacharya, Amitabha. Chemistry of heterocyclic compounds and related systems. BHU. Dr V K Verma, Department of Applied Chemistry, Institute of Technology, Banaras Hindu University, Varanasi.

4. Chellasamy, R Edison Raja. Kinetics and mechanism of reactions of metal complexes with peroxomonophosphate. Bharathidasan. Prof P Maruthamuthu, Head, Department of Energy, A C College Campus, Madras.

5. Das, Gita. Chemical studies on the leaves of *Gelonium multiflorum* A Juss (family: Euphorbiaceae). Calcutta.

6. Gita Kumari, G. The kinetics of micellar catalysed oxidation of some phenols by chloramine -T. Vikram. Dr S K Solanki, Department of Chemistry, Vikram University, Ujjain.

7. Gupta, Anand Kumar. Study of chemical constituents of some medicinal plants and their synthesis. Bundelkhand. Dr G S Niranjana, D S College, Orai.

8. Hanmantha Rao, M. Heterocycles derived from 3-aryl and 3-aryl-4-aryl methylene 5 (4H) isoxazolones. Osmania.

9. Kanakaraj, P. Photochemical reactions involving peroxomonosulphate: Kinetics and mechanism of photochemical reactions of peroxomonosulphate in presence and absence of substrates. Bharathidasan. Dr P Maruthamuthu, Prof and Head, Department of Energy, University of Madras, A C College Campus, Madras.

10. Karakattu, John K J. Synthetic and mechanistic studies using polymeric oxidising and brominating reagents. Mahatma Gandhi. Dr V N Rajasekharan Pillai, Prof and Head, School of Chemical Sciences, Mahatma Gandhi University, Kottayam.

11. Kaw, Chetna. Syntheses and spectroscopic studies of heterobimetallic complexes of 1, 1-dithioligands. BHU. Dr N K Singh, Department of Chemistry, Banaras Hindu University, Varanasi.

12. Manglam, Piyush. Studies on sulfuranes and their comparison with ylides of V group elements. Bundelkhand. Dr K C Gupta, D V College, Orai.

13. Mohana Rao, P Jagan. Application of kinetic studies to some

chemical problems in solution. Mangalore. Prof B Thimme Gowda, Prof and Chairman, Department of Chemistry, Mangalore University, Mangalagangothri.

14. Pathak, Pankaj Kumar. Studies on some azemethine phosphorane arsorace intermediate. Bundelkhand. Dr K C Gupta, D V College, Orai.

15. Purushotham Reddy, S. Search for antifeedants: Chemical examination of *Cassia roxburghii* L and synthesis of some new oxygen nitrogen heterocycles derived from 4, 6-diacetyl resorcinol. Osmania.

16. Rajesh Kumar. Ultrasonic studies of some solutions involving isopropyl alcohol. HP.

17. Rama Prasad, Makincedi Venkata Siva. Synthesis, spectral and biological activity studies of some organophosphorus and sulphur heterocyclic compounds. Venkateswara. Prof M S R Naidu, Department of Chemistry, Sri Venkateswara University College, Tirupati.

18. Saini, Ajai Kumar. Preparation and characterization of some mixed-ligand cyanonitrosyl complexes involving simple and biologically important organic compounds. Bundelkhand. Dr R C Maurya, Atarra College, Atarra.

19. Saxena, Brijesh Kumar. Some synthetic and comparative studies of stabilized and non-stabilized ylides. Bundelkhand. Dr K C Gupta, D V College, Orai.

20. Sengar, Samar Singh. Kinetics of oxidation of some organic compounds with one electron oxidant. Bundelkhand. Dr J P Pachauri, D V College, Orai.

21. Sharma, Raman Lata. Studies on the reaction of sulphur ylides with aziridines and related compounds: An approach to azetidines. IIT, Delhi. Dr U K Nadir, Department of Chemistry, Indian Institute of Technology, Delhi.

22. Sher Ali. Chemistry of phthaaseins: Their synthesis and colour. Bundelkhand. Dr I M Beg, D V College, Orai.

23. Shukla, Vinay Kumar. Study in antifertility agents. Bundelkhand. Dr N M Khanna, Central Drug Research Institute, Lucknow.

24. Singh, Rudra Pratap. Chemical investigation of *Echinops niveus*. BHU. Dr V B Singh.

25. Sreenivasa Rao, R. Polyphenolic constituents of Indian medicinal plants. Venkateswara. Dr J Rajasekhara Rao, Department of Chemistry, Sri Venkateswara University PG Centre, Cuddapah.

26. Sujatha, S. Some studies on the solvent extraction of zirconium (IV) and its adsorption behaviour on titanium dioxide. BHU. Dr R N Singh.

27. Tarunendr Singh. Nitrogen and sulphur heterocyclic compounds and related systems as potential extreme pressure lubricant additives. BHU. Dr V K Verma, Department of Applied Chemistry, Institute of Technology, Banaras Hindu University, Varanasi.

28. Thakrar, C N. Studies on some transition metal complexes. Saurashtra. Dr G K Joshi, Department of Chemistry, Saurashtra University, Rajkot.

29. Tomar, Ram Awtar Singh. Effect of phosphorus and zinc on quality and nutrient uptake by groundnut varieties. Jiwaji. Dr Vijay Singh, Assoc Prof, Department of Soil Science, College of Agriculture, Gwalior.

30. Tripathi, Awadh Bihari Ram. Studies on recoil behaviour of



80 Br, 80mBr and 82Br in some bromates under (n,r) process. BHU. Prof S P Mishra, Department of Chemistry, Banaras Hindu University, Varanasi.

31. Valsakumari, M K. Studies on medicinal plants. Bharathidasan. Dr N Sulochana, Asstt Prof, Department of Chemistry, Regional Engineering College, Trichy.

32. Verma, Lav Kumar. Studies on fuel cells. I S M. Dr Dipak Guha, Indian School of Mines, Dhanbad.

#### Earth Sciences

1. Gupta, Gurmukh Ram. Certain aspects of tropical cyclones and special features of monsoon over Indian region. IIT, Delhi. Dr U C Mohanty, Centre for Atmospheric Sciences, Indian Institute of Technology, New Delhi and Dr S K Dube, Centre for Atmospheric Sciences, Indian Institute of Technology, New Delhi.

2. Khanal, K N. Seismic source studies in the Himalaya using digital seismograms. Roorkee.

3. Mukherjee, Arunangshu. Phosphogenesis in precambrian rocks of Durg Distt. M P. Ravishankar. Dr M W Y Khan, Department of Geology, Ravishankar University, Raipur.

4. Perumal, A. Hydromorphogeological investigations in part of Athur Valley, Tamil Nadu, India, using remote sensing data. Roorkee.

5. Radha Krishna, M S B. Gravity field structure and tectonics of Andaman ARC and adjacent regions. I S M. Dr M Mukhopadhyay, Indian School of Mines, Dhanbad.

6. Sathi Babu, Yerakala. Hydro geochemistry of the coastal aquifers between Pampadupeta and Uppada of East Godavari District, Andhra Pradesh, India. Andhra.

7. Satyanarayana, Y. A study of crustal structure and crust-mantle relationship over some parts of the Indian peninsula using gravity field. I S M. Prof R K Verma.

8. Singh, Raj Kumar. Some studies on atmospheric energetics over the Indian monsoon region. BHU. Dr U S Singh, Department of Geophysics, Banaras Hindu University, Varanasi.

9. Srivastava, Ajai. Study of sediments at Ganga with special reference to effects of pollution load in Mirzapur, U P. BHU. Dr M N Mehrotra, Department of Geology, Banaras Hindu University, Varanasi.

#### Engineering and Technology

1. Abdel Mageed, A M. Study of fatigue crack closure and crack propagation for opening and the mixed mode in aluminium alloys. IIT, Delhi. Prof R K Pandey, Centre of Materials Science and Technology, Indian Institute of Technology, Delhi.

2. Dattatreya, J K. Study on viscoelastic response of flexible pavements. Bangalore. Dr M K L Shastri, Prof, Department of Civil Engineering, Bangalore University, Bangalore and Dr Sathyamurthy, Reader, Department of Civil Engineering, Bangalore University, Bangalore.

3. Gupta, Kapil Deo Prasad. Unbalance response and stability analysis of a dual rotor system. IIT, Delhi. Dr K Gupta, Department of Mechanical Engineering, Indian Institute of Technology, Delhi and Dr K Athre, Department of Mechanical Engineering, Indian Institute of Technology, Delhi.

4. Gupta, Srikant. Studies on the pulping and chemical constituents of Pinus caribaea. Roorkee.

5. Kalyana Sundaram, T. Contract management: A rational approach to construction contract pricing. IIT, Delhi. Prof P Natarajan, Department of Civil Engineering, Indian Institute of Technology, Delhi and Dr V B Deshpande, Department of Civil Engineering, Indian Institute of Technology, Delhi.

6. Mallika, C. High temperature thermodynamics studies on inter fission-product compounds. Madras.

7. Mandal, Rajiv Kumar. Generation of one dimensional and two dimensional quasicrystalline structures. BHU. Prof S Lele,

Department of Metallurgy, Institute of Technology, Banaras Hindu University, Varanasi.

8. Mohanan, P. Studies on the turbocharging of a methanol fueled automotive spark ignition engine. IIT, Delhi. Dr M K G Babu, Centre of Energy Studies, Indian Institute of Technology, New Delhi.

9. Mukherjee, Sraban. Optimal maintenance policies under incomplete state information. IIT, Delhi. Dr Kiran Seth, Department of Mechanical Engineering, Indian Institute of Technology, Delhi.

10. Nagar, S K. Digital control of linear dynamic systems. Roorkee.

11. Padmapriya, R. Investigations of honeycomb and slot devices for application to solar collector-cum-storage systems. IIT, Delhi. Dr N D Kaushika, Centre of Energy Studies, Indian Institute of Technology, New Delhi and Dr Anand Prakash, Instrument Design Development Centre, Indian Institute of Technology, New Delhi.

12. Panda, Amulya Kumar. Growth and product formation in plant cell culture of *Holarrhena antidysenterica*. IIT, Delhi. Dr V S Bisaria, Biochemical Engineering Research Centre, Indian Institute of Technology, New Delhi and Dr S Mishra, Biochemical Engineering Research Centre, Indian Institute of Technology, New Delhi.

13. Pandey, S K. Thermodynamics and electron microscopy of rapidly solidified aluminium base alloys. BHU. Prof C Suryanarayana, Department of Metallurgy, Institute of Technology, Banaras Hindu University, Varanasi.

14. Patel, Lakhan Kumar. Isomorphism and other properties of kinematic chains and mechanisms. Ravishankar. Dr A C Rao, Principal, V R Sidharth Engineering College, Vijayawada.

15. Pathak, Rajesh. Hydrogen reduction of nickel sulphide in the presence of lime. BHU. Prof M P Prasad.

16. Popat, T L. Analysis of vehicular interactions at highways intersections under mixed traffic flow. Roorkee.

17. Prasad, B N. Effect of artificial roughness on heat transfer and friction characteristics of solar air heaters. Roorkee.

18. Rangapathy, V. An analysis of food routing methods and identification of routing parameters. Anna.

19. Ray, Paramita. Polymer crosslinking with special reference to polymer blends. Calcutta.

20. Saha, Subhash Chandra. Study of thermal profiles of fusion welding processes. BHU. Prof S L Malhotra, Department of Metallurgy, Institute of Technology, Banaras Hindu University, Varanasi.

21. Sharma, Jag Mohan. Studies on the characterisation and applications for an Indian red mud from bauxite processing. BHU. Prof P M Prasad, Department of Metallurgy, Institute of Technology, Banaras Hindu University, Varanasi.

22. Shrivastava, Rakesh Kumar. An on-line reservoir operation model for multi reservoir systems. IIT, Delhi. Prof Subhash Chander, Department of Civil Engineering, Indian Institute of Technology, Delhi and Prof P N Kapoor, Department of Civil Engineering, Indian Institute of Technology, Delhi.

23. Singh, Shiv Pujan. Algorithms for improved and optimal power flow solutions using rectangular coordinates. BHU. Prof G S Raju, Department of Electrical Engineering, Institute of Technology, Banaras Hindu University, Varanasi.

24. Srinivasan, J. Studies on air-jet texturing of spun yarns. IIT, Delhi. Prof A K Sengupta, Department of Textile Technology, Indian Institute of Technology, New Delhi and Dr V K Kothari, Department of Textile Technology, Indian Institute of Technology, New Delhi.

25. Yadava, Kailash Prakash. Studies on the removal of water pollutants from ceramic and other industries. BHU. Prof B S Tyagi, Department of Ceramic Engineering, Institute of Technology, Banaras Hindu University, Varanasi.





# University of Rajasthan, Jaipur

No. F. 4-41/91-92/Acad.II/18953

Dated : 20-7-1992

## NOTIFICATION

The University will reopen for the session 1991-92 on 3rd September, 1991. Applications for new admissions to the following undergraduate Courses provided by the University are invited on the prescribed application form by the dates mentioned below in para 2 :-

- (1) Three-Year B.A., B.Sc. and B.Com. (10 + 2 + 3 pattern).
- (2) Three-Year B.A., B.Sc. and B.Com. (Hons.) (10 + 2 + 3 pattern).
- (3) Three-Year B.Sc. (Home Science) (10 + 2 + 3 pattern).
- (4) Four-Year Bachelor's Degree in Fine Arts.
- (5) One-Year Certificate and Two-Year Diploma Courses in Steno- typing (Hindi & English).
- (6) One-Year Higher Proficiency Certificate Course in English.
- (7) Four-Month-Certificate Course in Spoken English.

2. The last date for receipt of application forms for new admissions to various classes mentioned above will be **16-8-1991** without late fee and **23.8.1991** with a late fee of Rs. 10/-

3. No application forms will be entertained after the expiry of the last date for receipt of application forms with late fee.

4. The prescribed application form (with prospectus containing relevant information for new admissions) can be obtained from 1st August, 1991 on cash payment of Rs. 3/- (Rupees Three) only from the following :

- (1) Rajasthan Vishwavidyalaya Sahkari Wholesale Upbhokta Bhandar Ltd., University Campus, Jaipur
- (2) Dean, Students Welfare, University Campus, Jaipur,
- (3) University Maharani's College, Jaipur,
- (4) University Maharaja's College, Jaipur,
- (5) University Rajasthan College, Jaipur,
- (6) University Commerce College, Jaipur,
- (7) Student Service and Information Centre, University Central Office, Jaipur, and
- (8) Best Book Co., at Book World, University Campus, Jaipur.

Application Forms can also be obtained by post on remittance of Rs. 11/- (including postal charges of Rs. 8/- per form by Money Order sent to the "Registrar, University of Rajasthan, Jaipur" stating the purpose of remittance and giving full address on the Money Order Coupon. Eligibility conditions and other rules are given in the prospectus.

**REGISTRAR**



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# SHASTRI INDO-CANADIAN INSTITUTE

## SOCIAL SCIENCES & HUMANITIES FELLOWSHIPS FOR THE ACADEMIC YEAR 1992-93

Two annual fellowships have been established for Indian scholars in Social Sciences and Humanities to do research/study at a designated university in Canada for one academic term. The candidate should be a scholar at the middle level of his/her career stream who :

- (a) has proven ability for research and teaching;
- (b) will concentrate on specific project of study in Canada from a comparative perspective on Canada-India topics;
- (c) has a reasonably clear plan of study during the visit indicating the intention to continue work in the same area on return to India in order to enhance the knowledge of Canada within the Indian academic community;
- (d) is willing to take up the fellowship, if offered, and undertake to leave for Canada during September 1992.

The Institute will bear the cost of travel of the selected scholar to and from the designated university (shortest route, economy/excursion return airfare). In addition, the Institute will pay a maintenance allowance of C\$1,500.00 p.m. for a maximum period of four months and a sum of C\$500.00 for purchase of books and personal effects.

## FELLOWSHIPS FOR WOMEN IN DEVELOPMENT FOR THE ACADEMIC YEAR 1992-93

Applications are invited from senior Indian scholars for two fellowships for a lecture and research programme to help develop expertise in the area of Women in Development at selected Canadian Universities. These senior visiting fellowships are to be effective from September 1, 1992 for one academic term (13 weeks). The candidates: (1) should be established scholars in India with demonstrated ability for research and lecturing on Women in Development, (2) will be expected to assist individuals or groups in the development of research expertise on Women in Development in appropriate Canadian universities, (3) should be willing to take up the fellowship, if offered, and undertake to leave for Canada by September 15, 1992.

The Institute will bear the cost of travel (excursion return air fare) of the selected candidates. In addition, the Institute will pay a maintenance allowance of C\$2,500.00 per month for a maximum period upto four months, and a sum of C\$500.00 for the purchase of books and personal effects.

Applications, which must include a detailed bio-data, research proposal and list of lecture topics (7 copies each), must reach the Shastri Indo-Canadian Institute, 5 Bhai Vir Singh Marg, New Delhi 110 001 not later than November 15, 1991

Particulars of fellowships with application form can be obtained by sending self addressed Rs. 4/- stamped envelop (5"10") to :

**The Resident Director  
Shastri Indo-Canadian Institute  
5 Bhai Vir Singh Marg  
New Delhi 110 001**



# BARKATULLAH UNIVERSITY, BHOPAL

No. 172/BU/Dev./ Admission,/91

Dated : 10.7.91

## ADMISSION NOTICE 1991-92

Applications for admission to various University Teaching Departments are invited in the prescribed forms obtainable from the concerned departments, on payment of Rs. 25/- each at the counter and Rs. 35/- by post, Payable by Postal order/Bank draft, drawn in favour of Registrar, Barkatullah University, Bhopal. 462 026.

Name of the course		No. of Seats	Minimum Qualifications
<b>I. M.Sc. Courses</b>			
(i)	Bio-Science	10 each	B.Sc. with any combination of Life- science subjects for (i), (ii), (iii) & (iv)
(ii)	Microbiology		
(iii)	Genetics		
(iv)	Limnology		
(v)	Applied Geology	15 seats	B.Sc. with Geology and any two of the following subjects: Physics, Maths, Statistics, Chemistry, Zoology or Botany M.Sc. in Pure Geology/Applied Geology. M.Sc. Tech., M.Tech. with 55% marks
(vi)	M.Sc. Tech.	05 seats	
	Remote Sensing		
(vii)	Physics(Specialisation Materials sciences/ Digital electronics/ fibre optics/super-conductivity).	25 seats	B.Sc with Physics
ELIGIBILITY CONDITION FOR ADMISSION IN ALL M.SC. COURSES: ATLEAST 50% MARKS IN THEORY PAPERS IN ALL THE THREE YEARS OF B.Sc.			
<b>II. MA/M.COM COURSES</b>			
(i)	Economics(Speciali- sation in Regional Planning & Economic Growth).	30 seats	Eligibility for admission to all courses of MA/M.Com Degree examination with at least 50% in aggregate;
(ii)	Sociology	20 seats	-do-
(iii)	M.Com.	20 seats	-do-
(iv)	Persian	10 seats	-do-
(v)	Arabic	15 seats	-do-
(vi)	Psychology	15 seats	-do-
(vii)	Sanskrit	15 seats	-do-
(viii)	Linguistics	10 seats	Eligibility for admission to M.A. Linguistics:Degree examination with atleast 50% in aggregate.
<b>III. M.PHIL Courses</b>			
1.	Bio-Science (Specialisation in Inland Fisheries/Endocrin- ology/Animal Physiology/ Bio-Chemistry	10 seats	M.Sc. in any branch of Life Science preferably in Bio-Sciences with specialisation in branch of the course.
2.	Physics	10 seats	M.Sc. Physics
3.	Regional Planning & Economic Growth	25 seats	M.A. in Economics(15 seats/Geography (10 seats).
4.	Sociology	20 seats	M.A in Sociology/Social Anthropology
5.	Psychology	10 seats	M.A. in Psychology
6.	Comparative Linguistics	15 seats	M.A. in any language with linguistics as a paper.
ELIGIBILITY FOR ALL M.PHIL COURCES - ATLEAST 50% MARKS IN ALL THE EXAMINATIONS FROM BA/B.Sc/M.A./M.Sc EXAMS.			



IV.	LLM (Modern Legal Studies)	15 seats	LL B atleast 50% marks
V.	<b>Diploma/Certificate Courses</b>		
1.	P.G. Diploma in Tribal Languages	15 seats	P.G. in any language with linguistics as a paper
2.	P.G. Diploma in Labour Laws and Industrial Relations	50 seats	LLB/M.Com/MA/ in any social science subject with atleast 55% in Graduation or P.G.
3.	Post B.Sc Diploma in Computer Applications (25 English/10- Hindi)	35 seats	Eligibility: B.Sc/B.Com/BA(Maths), M.Sc/M.Com/MA(Maths), B.E. with atleast 55% in Graduation or P.G.
4.	Certificate course in Spoken Persian	10 seats	Higher Secondary with atleast 45% marks.

15% of SEATS are reserved for scheduled caste and 18% for Scheduled Tribe candidates in each course, with 5% relaxation in marks. If such candidates are not available, the seats will be filled up from general category candidates.

Only whole time students are admitted to Post-Graduate and M.Phil courses. Applicants desirous of applying for more than one course, have to apply separately for each course.

Application forms accompanied by attested copies of certificates are to be submitted to the respective Heads of the Teaching Departments by 30th July, 1991 or within 10 days of the declaration of the result of the qualifying examination of the Barkatullah University.

Admission to M.Phil courses and /Post B.Sc. Diploma in Computer Applications will be made through written test, the dates of which will be notified by the respective Heads of the departments.

**Dr. Kamlakar Singh**  
**DEPUTY REGISTRAR (DEV. )**

## CLASSIFIED ADVERTISEMENTS

### SAMBALPUR UNIVERSITY JYOTI VIHAR, BURLA

**Advertisement No.15139/Estt.I/I-9/91/AO**

**Dated 8/7/91**

Applications in the prescribed forms with attested copies of mark-sheet and certificates of reach examination passed are invited for the following post by 5.8.91.

Sl. No.	Name and No. of Vacancy and scale of pay.	Mode of reservation.	Minimum Qualification
1.	Director, College Development Council. (Vacancy - One) Scale of Pay Rs.4500-150-5700-200-7300/- (The post is tenurial for 3 years and renewable for another term).	—	<b>Essential! Qualifications:</b> An eminent scholar with published work of high quality and actively engaged in research. About ten years' experience of teaching and/or research. Experience of guiding research at doctoral level. <b>OR</b> An outstanding scholar with established reputation who has made significant contribution to knowledge. <b>Desirable:</b> Experience in dealing with matter involving UGC financial assistance of University Administration will be given preference.
2.	Deputy Registrar, (Spl. Cell) (Vacancy- One) Scale of Pay : Rs. 2800-10-3600-EB-125-4350.	Reserved for ST/SC	<b>Essential:</b> I) A. P.G. Degree with at least 55% marks or its equivalent grade. II) Eight years of experience in administration in any organisation(s). <b>OR</b> Five years of administrative experience as Assistant Registrar or in an equivalent post or in a similar cadre post in Sambalpur University. <b>Desirable:</b> A degree in Law or Degree/Diploma in Management Course.



Sl. No.	Name and No. of Vacancy and scale of pay	Mode of reservation	Minimum Qualification
3.	Assistant Engineer (Vacancy-One), Scale of Pay Rs.2000-60- 2300-EB-75-3200-100-3500/-.		<b>Qualification and Experience:</b> B.E./A.M.I.E./ B.Sc.(Engg.) with specialisation in Civil Engineering. (i) Minimum 2 years of experience of Civil Construction and repair in a Government/Semi -Gov- ernment or Statutory Body or Registered Society/ Company in case of candidates having B.E./ B.Sc.(Engg) qualifications. (ii) Minimum 5 years of similar experience as in (i) in case of candidates having A.M.I.E. degree qualification.
4.	Security Officer (Vacancy-One), Scale of Pay Rs.2000-60-2300- EB-75-3200-100-3500/-.		<b>Essential:</b> Graduate with 5 years experience as Sub-Inspector of Police in the State Govt. OR Ex-military person having ten years of experience as Sergeant with Matriculation qualification.

All the posts carry usual D.A., C.P.F./Pension/Gratuity facilities.

Persons on deputation will carry their own scale of pay.

Appointment will be made purely on temporary basis. Seven copies of the application forms can be had from University Office in person on payment of Rs.25/- (Rs.6.25 for ST/SC) or by post on a (a) Bank Draft of Rs.25/- (Rs.6.25 for ST/SC) drawn in favour of Comptroller of Finance, Sambalpur University payable at United Commercial Bank, Katapali/S.B.I., Burla/ S.B.I., Sambalpur (b) A self-addressed envelope (23cm x 11cm) with postage stamp worth Rs.10.00 superscribed with "APPLICATION FORM FOR THE POST OF OFFICER" Money order/I.P.O./Cheques are not acceptable.

Candidates in service must apply through proper channel.

Issue of this advertisement does not make it binding on the University authorities to make the appointment.

Correspondence be addressed to Registrar by designation only.

**P. M. Nayak**  
**REGISTRAR**

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## MAHARSHI DAYANAND UNIVERSITY, ROHTAK

### Advertisement No.4/91

Applications on prescribed form are in-  
vited for the following posts:-

**Principal (3700-5700) :** University College,  
Evening Shift — One

**Co-ordinator (3700-5700) :** Directorate of  
Correspondence Courses — One

**Director (3000-4500 + Rent free accom-  
modation or Consolidated salary to be  
decided by the Competent authority  
+ Rent free accommodation : Univer-  
sity Campus School — One**

**Lecturer Statistics — One**(University Col-  
lege)

### QUALIFICATIONS

**Principal :** a) A Doctor's Degree and

b) Consistently good academic record  
with first or high Second Class (B+)   
Master's Degree or equivalent degree of a  
foreign University.

c) Atleast 8 years' teaching experience  
(with or without training qualifications) in a  
college affiliated to a University or any other  
Institution of similar standing.

d) Knowledge of Hindi upto Matric or its  
equivalent standard.

If in the opinion of the Selection Com-  
mittee, the research work of a candidate as  
evident either from his thesis or from his  
published work is of a very high standard it  
may relax any of the qualifications prescribed  
in (b) above.



**Co-ordinator :** "As prescribed for the appointment of Principal in a College of Education. Person with sufficient administrative experience in Educational Institution(s) may be given preference.

**Director :** M.A. with some research work, 15 years teaching experience plus atleast 5 years as Headmaster/Principal of reputed school/Training Institute.

**Lecturer :** As per U.G.C. qualifications.

Other allowances and benefits of contributory Provident Fund admissible as per University rules. Higher start admissible in deserving cases. Knowledge of Hindi essential.

Reservation for Ex-servicemen, B.C./S.C./S.T. candidates as per rules. However, where the candidates under reserved categories are not available, the posts will be filled from amongst the general category's candidates.

Applications are to be submitted on the form prescribed for Class 'A' Officers alongwith attested testimonials and Crossed Postal Orders for Rs. 10/- drawn in favour of the Chief Accounts Officer, M.D. University, Rohtak, payable at the Post Office, Rohtak. Applications (through proper channel from those in employment) complete in all

respects should reach the Asstt. Registrar(Estt.) Teaching, M.D. University, Rohtak by 20.8.1991. Incomplete application or applications received after the expiry of last date are liable to be rejected. The application forms can be had from the Press Manager, M.D. University, Rohtak on payment of Rs. 2/- at the counter and Rs. 3/- by ordinary post.

**NOTE:**

i) The applications shall be screened by the Committee to be appointed by the Vice-Chancellor. The Screening Committee will be competent to screen applicants and classify them on the basis of qualifications and experience and call for interview only the selected candidates, after obtaining approval from the Vice-Chancellor.

ii) It will not be obligatory on the part of the University to call for interview every candidate who possesses the essential qualifications.

iii) Only those candidates who fulfil the prescribed qualifications on the last date of the receipt of applications shall be considered eligible. The documents concerning their eligibility received after the last date of applications shall not be entertained.

iv) Number of posts may change.

v) It is not necessary to fill any/all of the

advertised vacancies. Recruitments shall be need based and the advertisement is no commitment. Canvassing will be disqualification.

**K.S. Sangwan**

**REGISTRAR**

## **BANASTHALI VIDYAPITH**

**(Deemed to be University)**

Invites applications for the following :-

**Lecturer : Music (Vocal) : 1 Qualifications** and pay scale as laid down by University Grants Commission.

**Assistant Lecturer Textile Designing : 1 Qualifications : I/High II Graduation with Diploma in Textile Designing (Specialization printing).**

**Pay scale : 1640-60-2600-75-2900.**

Dearness Allowance, Contributory Provident Fund, Gratuity-cum- Insurance benefits as per Vidyapith rules. Wearing of KHADI compulsory on appointment. Applications on plain paper giving full details of age, qualifications, experience with attested photostat copies of mark-lists, Certificates and Postal order of Rs. 15/- must reach within 21 days of the advertisement to the Secretary, Banasthali Vidyapith, P.O. Banasthali Vidyapith (Rajasthan) 304022. No. 5/91

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# VIKRAM UNIVERSITY, UJJAIN

No. Dev/Estt/SS/91/1/ 1542

Dated: 15-7-1991

## EMPLOYMENT NOTICE

Applications, in the prescribed forms, available from the undersigned on payment of Cost of Rs. 10/- by Indian Postal Order, drawn in favour of the Registrar, Vikram University, Ujjain, are invited for the following posts so as to reach the undersigned on or before 26-8-91.

Name of Post	No. of Posts	Details including UGC specialisation if any.
<b>(A) Teaching Departments</b>		
PROFESSOR Rs. 4500-7300	(9)	One each in Hindi (Navin Chair), Political Science, Business Management, Physics, Chemistry (Inorganic), Instrumentation for USIC, Oriental Studies for Scindia Oriental Research Institute (Director) and Two in Zoology (One in Fish and Fisheries).
READER Rs. 3700-5700	(13)	One each in Hindi, English, Economics, Ancient Indian History Culture and Arch., Botany, Zoology, Computer Science applications and Three each in Business Management and Geology (One in Applied Geology).
LECTURER Rs. 2200-4000	(9)	One each in English, Business Management (SC Candidate), Mathematics, Statistics and Ancient Indian History Culture & Arch. and Two each in Chemistry and Zoology (One in Molecular Biology/Biochemistry)

Out of two lecturers' posts in Zoology, one is a lien post tenable upto 25-4-1992 but likely to be continued and other leave vacancy upto 14-4-93. Similarly, one post in Lecturer in Chemistry is a lien post tenable upto 30-6-93 but likely to be continued.

### **(B) 'B' LEVEL COMPUTER CENTRE.**

SENIOR SYSTEM ANALYST/PROGRAMMER - (1)

Rs. 3700-5700

### **(C) UNIVERSITY SCIENCE INSTRUMENTATION CENTRE**

SCIENTIFIC OFFICER - (1)

Rs. 2200-4000

Post of one Professor each in Chemistry, Oriental-Studies (Director), Instrumentation (USIC), Reader in Geology, one Lecturer each in Mathematics, Statistics and one post of Scientific Officer (USIC) are VIII Plan Posts.

The minimum essential qualifications and other terms and conditions are the same as prescribed by the University Grants Commission, New Delhi which will be given in the sheets attached with the application forms alongwith desirable specializations, if any.

The forms will be issued only upto 19-8-91 by post. The forms will, however, be issued in person upto 12.00 noon of 26-8-91 in the University Office. If the forms are required under Registered Cover an I.P.O. for an additional amount of Rs. 15/- should be sent to cover the postal charges.

Candidates in employment should send their applications through proper channel. However, in such cases an advance copy may be sent in prescribed form. All appointments will be on two years probation except on lien and leave vacancy posts. Superannuation age is 60 years. In addition to pay, the candidates appointed would be eligible to receive D.A. and other allowances as per M.P. Government rules. Scheduled Castes, Scheduled Tribes and disabled candidates will be given preference if found suitable.

Applications received without prescribed fee of Rs. 10/- or on plain paper or after last date will be summarily rejected.

The University reserves the right to fill up or not to fill up any post advertised and also to call for interview only well qualified candidates selected after making SHORT LISTING from the candidates who applied for the respective posts.

The Selection Committee shall be free to consider the candidature of any eminent person distinguished in scholarship who may not have applied.

The University will not be responsible for any postal delay. The Candidate should see that their application forms completed in all respects alongwith a fee of Rs.10/- payable to the Registrar, Vikram University, Ujjain in the form of I.P.O. reaches the undersigned on or before 26.8.91.

No T.A., D.A. will be paid for attending the interview.

R.C. Parmar  
REGISTRAR



# SHASTRI INDO-CANADIAN INSTITUTE

## DEVELOPMENT OF CANADIAN STUDIES IN INDIA

### FELLOWSHIPS FOR INDIAN SCHOLARS IN HUMANITIES AND SOCIAL SCIENCES FOR THE ACADEMIC YEAR 1992-93

#### Categories of Fellowship

Faculty Enrichment

Faculty Research

Graduate Student (Doctoral Research)

#### Eligibility

##### Faculty Enrichment

##### Applicants:

1. will normally be full-time, permanent teaching members of the academic staff of a recognized institution of higher education or equivalent degree-granting institute in India. 2. must be proficient in either English or French. In addition, while not mandatory, applicants should provide evidence of their interest in or involvement with Canada prior to the application, if such has been the case. This may be demonstrated by courses already given, research undertaken, extra-mural activities, membership in the Indian Association for Canadian Studies (IACS), etc.

##### Faculty Research

Applicants will normally: 1. be full-time members of the academic staff of a recognized institution of higher education or equivalent degree-granting institute; or scholars at research and bilateral relations research projects; professors emeritus may also apply; 2. hold a degree equivalent to a postgraduate qualification; applications will be considered from applicants without these formal qualifications only if successful research experience can be demonstrated; Applicants must be proficient in either English or French. In addition, while not mandatory, applicants should provide evidence of their interest in or involvement with Canada prior to the application, if such has already given, research they have undertaken, extra-mural activities, active membership in the Indian Association for Canadian Studies, etc.

##### Graduate Student (Doctoral Research)

Applicants will normally: 1. be a citizen of the country from which they make application; 2; be a postgraduate student in a recognized institution of higher education or equivalent degree-granting institute who will have completed course and course-related doctoral requirements by the time the graduate student research award for which he/she is applying would be granted.

Applicants must be proficient in either English or French.

LAST DATE FOR RECEIPT OF COMPLETED APPLICATIONS IS NOVEMBER 15, 1991.

Please write for further details and application form by sending self addressed Rs. 4/- stamped envelope (5"x10") to:

The Resident Director  
Shastri Indo-Canadian Institute  
5 Bhai Vir Singh Marg  
New Delhi - 110 001



# University News

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MONDAY, AUGUST 5, 1991

Rs. 2.50

## NEHU Convocation



Eighth Convocation of North-Eastern Hill University. From R to L : Prof. Yash Pal, former Chairman, UGC, who delivered the convocation address, Dr. C. N. R. Rao, Chancellor, Prof. Iqbal Narain, Vice-Chancellor and Dr. R. G. Michael, PVC (Meghalaya)





# Central Scientific Instruments Organisation

(Council of Scientific and Industrial Research)

Sector-30, Chandigarh-20

Advertisement No. 2/91

## PART I

Applications are invited for the following posts in Central Scientific Instruments Organisation, Chandigarh. The amount shown within brackets against the pay scales are the total emoluments on the minimum of the pay scale.

**1. Post No. 1/1 : Scientist-E-1 (One Post)**

**Pay Scale :** Rs. 3700-125-4700-150-5000 (Rs.6305/-) ; **Qualifications :** Ist Class B.E. in Electronics/First Class M.Sc in Physics with Electronics with 12 years experience OR M.Tech/M.E. in Electronics with original work as evidenced by patents or publications and evidence of leadership with about 10 years of R&D experience.

**2. Post No.1/2 : Scientist-C (Three Posts)**

**Pay Scale:** Rs.3000-100-3500-125-4500 (Rs.5150/-); **Qualifications :** Ist Class B.E. in Electronic with 6 years experience/M.E. in Electronics with 4 years experience. Minimum years of experience relaxable only in exceptional cases.

**3. Post No.1/3 : Sr. Translator (Hindi) (One Post)**

**Pay Scale:** Rs.1640-60-2600-EB-75-2900 (Rs.2946/-); For Qualifications and job Requirement please refer to our Advt No.2/91 published in the Employment News/Rozgar Samachar dt. 3/8/9991.

**Age Limit :** Maximum 30 years as on 1.1.1991 (relaxable upto 5 years in case of SC/ST candidate). The selection will be made on the basis of examination and interview to this post.

## PART II

**4. Post No.2/1 : Scientist-B (One Post) (Reserved for Scheduled Caste)**

**Pay Scale:** Rs.2200-75-2800-EB-100-4000 (Rs. 3792/-); **Qualifications:** Ist Class B.E. in Electronics OR M.Tech/M.E. in Electronics.

**5. Post No.2/2 : Technical Assistant Gd.-VIII(Four Posts) (Reserved for Scheduled Tribe)**

**Pay Scale:** Rs. 1400-40-1800-EB-50-2300 (Rs.2384/-); **Qualifications:** Diploma in Electronics of 3 years duration.

The number of posts may vary.

Last date for receipt of application in the prescribed form complete in all respects is 16.9.1991.

For details, please refer to our Advt No.2/91 published in the Employment News/Rozgar Samachar dated 3.8.1991.



# UNIVERSITY NEWS

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## IN THIS ISSUE

Using Group Dynamics in the Classroom	3
Case Method and the Case Study Approach	7
Countrywide Classroom Television Programme	13

### Convocation

North-Eastern Hill University, Shillong	18
--	----

### Campus News

Orientation Programme for Teachers	21
Indian Scholars at International Mathematical Olympiad	21
Course in Child Care Services	22

### Agriculture

USAID Scientists at HAU	22
-------------------------	----

### News from UGC

Countrywide Classroom Programme	23
UGC-NBT MoU on Book Production	23
Fora for Interdisciplinary Research	24
Book Review	25
Current Documentation in Education	29
Theses of the Month	30
Advertisements	34

Opinions expressed in the articles  
are those of the contributors and do  
not necessarily reflect the policies of  
the Association.

Editor:

SUTINDER SINGH

# Restructuring Higher Education in India

## Some Suggestions

J.N. Kapur\*

### Introduce Open Continuous Internal Assessment

Every teacher should be allowed to examine the students he or she teaches and to give the grade to every student.

There should be a number of quizzes, mid-term tests and end-semester tests and possibly a project. The teacher should keep a record of all these and the final result should be based on all of them.

Every student should have the right to see his and other students answer-books and discuss the marks given by the teacher. In case of a dispute, the student may appeal to the head of the department or dean.

The record of every question paper and assignment given should be kept so that everybody can be sure that all the topics in the course have been covered.

The teacher should give to the students in the beginning of the semester a sheet giving the topics to be covered in each lecture so that the students know in advance of each lecture what is to be taught.

Every student should be required to have a textbook for every course and the student should be asked to read the easier portions of the textbook himself. The student should be given much greater responsibility for learning.

Either library should have sufficient copies of textbooks or the needy students should be given bank loans to purchase these books. These loans can be recovered when the students begin earning. These loans will increase the productivity of the educational system.

The teacher should distribute grades roughly according to the normal distribution, so that only approximately some proportions get A,B,C,D,F. Deviations can be allowed in special cases, in consultation with the head of the department.

Every student should have to work for about 50 hours a week and this should consist of consulting books and even journals for doing assignments given.

The system will be open, fair, with no secrecy and will make the students and teachers both work regularly. There will be no out-of-course papers and there will be no open choices in question papers.

The number of lectures given per course will be reduced, but the teacher will have to work for about 40 hours per week in preparing and delivering lectures, in preparing assignments and quizzes and correcting

*\*Mathematical Sciences Trust Society,*

*C-766, New Friends Colony, New Delhi - 110 065.*



them, in discussions with students and so on.

The two or three months that are spent at present in conducting an external examination, with all its secrecy and corruption, will be saved. Made-easy books will disappear and standard textbooks will be written and used. The creativity of both students and teachers will come into play. Both will be required to think. Examinations will be able to test powers of analysis, synthesis, comprehension and application and not only just powers of cramming.

#### **Introduce Students Reaction Surveys of Teacher's Instruction as also Distinguished Teacher Awards**

Near the end of every semester, a detailed questionnaire should be given about the teaching of every teacher. Each student should fill it without giving his or her name. All the answers received from a class should be analysed and the students' opinions should be given to every teacher as a feedback to enable the teacher to improve the teaching process. These opinions can also be used as an input at the time of promotion of the teachers. This will keep the teachers alert and motivated for excellence in teaching. Based on students' surveys and other relevant inputs, Distinguished Teachers Awards should be given to outstanding teachers.

#### **Ensure Perfect Fairness in Selection and Promotion of Teachers and Admissions of Students**

Criteria for selection and evaluation of teachers should be laid down in sufficient detail, in black and white, in advance. For recruitment, these should include (i) his academic record, (ii) his research record and the opinion about his research by experts, (iii) his performance at a seminar given by him, (iv) his record in extra-curricular activities, and (v) his performance in an interview, which may even be tape-recorded.

The selection committee should give all the evidence at its disposal and state why it selected a particular candidate in preference to other candidate and the reasons for its decision should not be kept secret.

Similar criteria may be used at the time of promotion, but these will also include opinions of students as expressed in student's reaction surveys, opinions of his colleagues, his performance in committees, his extra-curricular work, his service to the institution, his research work subsequent to appointment and so on. Again all the details will be given alongwith the decision.

Again we must ensure that all admissions are perfectly fair and according to rules made in advance and there are no exceptions at all. Fairness and impartiality

in all aspects of higher education will have a great impact on the character of students and even members of the general public.

#### **Introduce Accreditation of Departments and Institutions**

Universities should not have automatic right of starting any academic programme. There are already some accreditation powers with the Indian Council of Medical Research, the Indian Council of Agricultural Research and the All India Council of Technical Education. There is no reason why the UGC should not exercise similar powers with respect to B.Ed, M.Sc, Ph.D and other programmes. National norms regarding faculty, equipment, library, buildings should be laid down and the colleges or departments not satisfying these requirements should be asked to stop running the programmes immediately. Even those who satisfy these requirements now should be periodically inspected and their accreditation cancelled if the visiting team is not satisfied. For any new programme to be started, accreditation in advance must be essential.

#### **Grade Departments, Institutions and Universities**

All accredited departments and institutions should be graded according to the following criteria :

- (i) the number and academic qualifications of the faculty and their performance in the previous five years;
- (ii) the quality and quantity of equipment and infrastructural support;
- (iii) the number of advanced books and high level journals its library has; and
- (iv) the performance of its students in national and international events.

#### **Give an Office to Every College and University Teacher**

This is the minimum if we want the teachers to stay in colleges for long hours and be available to students for discussions. Teachers should also be given support for buying books and becoming members of professional bodies. They should also be given facilities to attend national and international conferences. They should also be given facilities to attend refresher courses and professional development programmes and those active in research should be given sabbatical leave for pursuing research in depth. Grants should be available to teachers for both curriculum development as well as for research, but again grants should be distributed in a completely fair and open manner.

*(Contd. on page 17)*



# USING GROUP DYNAMICS IN THE CLASSROOM

U. M. Chhatrapati\*

One of the more common difficulties facing the teacher of the present academic world is the heterogeneous nature of the student population. Within a single classroom there often exists a broad range of academic ability, academic motivation, socio-economic background, and value standards. This paper presents a description of one attempt to deal with these problems using group dynamics techniques in a junior high school science classroom.

The problem is to promote the growth of the individual junior high school student by setting up a responsive environment, providing structured activities for thinking, and allowing opportunities for self-instruction, social interaction, and attitudinal development.

A training programme was designed to provide the students with the tools of group dynamics. It was hypothesised that if the students were aware of grouping techniques, they would be capable of using these techniques to raise their expected production level. The training schedule included five one hour periods of instruction to be taught on successive days of a week.

A class of 32 ninth grade students was selected for the programme. Twenty three had been classified as slow learners, six were classified as students with medium ability, and three were students who had previously been classified as accelerated students, but because of discontinuation of tracking in the science department they were now all assigned to the same section. This particular group of students and teacher had been together for one semester. Many of the 26 slower students were tracked together in other disciplines. The entire group had developed a reputation of being difficult. They experienced more than the average number of discipline problems, many arising from racial conflicts ... religious disputes ... casteism ... etc. The entire group had been contracting for grades on individualized, teacher - designed learning activity packets during the previous grading period.

*Day one* — The first period of instruction on group dynamics was designed in three steps :

First, intra class groups were randomly formed. The

students were given one jawbreaker each from a paper bag as they entered the room. At the end of a few minutes' time they were asked to inspect the colour of each others' tongues and form into groups according to the colour. This provided groups of reds, greens, purples, oranges, and blacks for this and the second training day.

Next, each group was given the same task. Members of the group counted off to assign each member a number. Group member number two was appointed leader, and group member number four was appointed recorder for the day. Each member of the group was to provide the following data:

...his birth date.

...his birth place.

...how many siblings he has.

...how many states he has visited.

...his favourite colour

...his favourite TV program, or a cine actor.

The group was given a large piece of newsprint and some crayons and was asked to present one of these sections of information in graphic form.

The last few minutes of the class period were spent as each group recorder explained the graph to the remainder of the class.

*Day Two* — The class formed the same groups, again counted off, and randomly determined leaders and recorders. The groups were then given directions on how to brainstorm and were asked to brainstorm ideas about how their classroom could be improved. A minimum of instructions concerning brainstorming techniques were given. Instructions were to (1) think of anything that would make the classroom better, (2) do not make a judgement about whether it is a good or bad idea, and (3) write the ideas on a paper so that everyone in the group can see them. Each group was given three "suggestions" by the teacher during the brainstorming session in order to assure that the class would be ready for the second part of the period.

After approximately ten ideas were listed, the brainstorming was ended. The groups were then instructed to rank order the ideas from the most worth to

---

\* L. E. College, Morbi - 363 642 (Gujarat)



the least worth. Before they were to do that, however, individuals with numbers 1,3 and 5 were asked to leave the room to receive special instructions. When students 1,3 and 5 had left the room, the remaining students were told that when these students returned, the group should ignore number 1, reject the ideas of number 3, and readily accept number 5's ideas. The students who had been asked to leave the room were told that number 1 would work for the idea of 'installing air conditioning' or some similar idea appearing on all lists. Numbers 3 and 5 were similarly assigned one specific idea. They were each to try to get their idea at the top of the list as being most important. The groups were then reformed in order of the ideas for improving the classroom.

The last phase of this training period was spent sharing the feelings of those students who had been rejected, ignored, or readily accepted.

*Day Three* - At the beginning of the period the class was given a short lecture which covered:

i) Responsibilities of various group members—

- a) Leader— How to direct the efforts of the group.
- b) Reorder— Maintains the records for the group.
- c) Observer— Watches the group, summarizes what has happened.
- d) Member— Gives the group the energy to accomplish the task.

e) Consultant— Provides the information and experience that other members may not have.

ii) Appropriate group functional tasks—

- a) Data gathering— collecting appropriate data.
- b) Brainstorming— thinking up ideas, changing existing ideas.
- c) Critical listening— concentrating on problems before the group (usually brought by one of the members)
- d) Inquiring— group problem solving using the various processes for learning science.
- e) Holding class meetings— discussion of problems which have direct influence on the classroom.
- f) Reporting individual projects— individual research projects given separately or as a part of the group's project.
- g) Fishbowling— observing the actions of a group in order to pick out the group dynamic functions.

h) Evaluating— either to evaluate how student is doing within the group or to evaluate how well the group is doing in the content material testing.

iii) Individuals whose behaviour helps group to function—

- a) Energiser— gets group going, helps the group to stick to the subject.
- b) Clarifier— summariser, solves problems, asks questions.
- c) Harmonizer— is easy on the feelings of others, friendly and warm, accepting of ideas.

iv) Individual behaviour which obstructs group functioning—

- a) Blocking— goes off on tangent, argues too much, talks on the topics on and on.
- b) Horsing around— clowning, joking, disrupting the group.
- c) Self-confessing— brings personal problems to the group.
- d) Withdrawing— daydreaming, reading something else, whispering to others.

References to the experiences in the previous two periods were used to illustrate various points covered in the lecture.

Next came student interaction through Agree-Disagree statements about group instructions and the material covered in the lecture. Each student was given 10 statements. He was to respond individually to each statement. The instructions for the Agree-Disagree statements included directions for the group to discuss each problem and come to complete unanimity. But as the group began to take up the task of group agreement-disagreement, they were stopped and a separate, entirely new group of eight students was selected at random from the entire class. This special group was formed into a closed circle in the centre of the room and asked to perform the task of reaching total unanimity on all statements. The remainder of the class sat in a larger outside circle and was asked to act as observers. This technique is called 'fishbowling'. The observers were asked to note specifically when someone within the group did something to get the group moving toward its task, when someone acted in harmony with his fellow students, or when someone did something to block the functioning of the group. The observers were reminded to use the criteria mentioned in the previous lecture.

Finally, at the end of this period of instruction, students were asked to share their observations with the



class. They were to speak of their observations only as what they saw happening in the group, what they observed of individuals within the group. In other words, they were not to mention individual names. They could report. "I observed a member of the group who would not let another member speak", not "Betty Smith would not let anyone else speak." Students who were inside the 'fishbowl' were asked to share their feelings with the class as a whole.

*Day Four* — In the fourth period, the students formed intraclass groups of five or six students. They determined their leaders, recorders, and observers for the day. Each group was given the same task: classification. The group was to determine categories and classify measuring instruments found in the science classroom into various categories decided upon by the group. The task concluded with the preparation of a visual showing their work.

Then each student determined his value to the group. Each student was given a questionnaire based upon self-esteem on which he made choices of degrees of worth from 1 through 5. The last few minutes of the period were spent discussing each individual's rating scale within his own group.

*Day Five* — First, a short content oriented group task was assigned to each intraclass group. In this case they collected data as to the use of indicators for acids and bases.

Second, the students were asked to rate themselves in the classroom grouping. A questionnaire which required value judgment of their individual value as a student was used. After that they were given a second paper which outlined a contract for the next six weeks of school. These contract sheets became a matter of record and a commitment after the period of group training. Each student was given a chance to discuss his contract with the group if he so desired.

### Observations and Results

Day one showed little change in overall classroom behaviour. The day started and ended as a noisy and disorganized period. Some students wanted to join a group different than his tongue colour if his friend was in other group. All students worked individually. They interacted with only one or two of their peers. They contributed information unilaterally, but didn't listen to the contributions of others. Instructions for the group organization and tasks had to be given repeatedly because only one or two individuals at a time were seeking information.

When it came time to make the graphic presentation, individuals asked questions about how to do it, some groups produced more than one graphic.

Leaders did not organize the group for production. Many conscientious recorders gave up their position with the excuse that they could not draw, and projects were not completed. The period ended in general pandemonium.

A few students who were used to having complete packages of daily lessons voiced concern about not getting finished and wondered if they could finish the next day. Most students stated they did not understand the purpose of the lesson and many voiced concern about how they were to be graded. Generally, however, there was a feeling of having had fun.

Day two began with most students voicing expectation and interest in what they were to do. Many, upon entering the room, asked if they could finish their graphic. The groups were formed with a minimum delay, and no one voiced negative feelings about joining his group. Day two was also a noisy period. Students became highly involved in the programme. First, the brainstorming session produced some drastic ideas. Students who seldom contributed to class discussions were the biggest contributors to the brainstorming session once they found their ideas were not to be judged on merit. The second phase of the period became very noisy as each student argued for his choice of ideas as the best. Some students used physical means to argue their points. All students cooperated in the teacher-prepared ruse. At the end of the period when individuals shared feelings about being ignored, rejected, or accepted, the remainder of the class listened attentively and appeared to take note of the individual's concerns.

By the end of the second training period it appeared that a social awareness change had been made in the class as a whole. When the students returned to the room on the third day, they formed into their individual groups without asking or even discussing whether they should. When the teacher gave the short lecture, the students were extremely attentive. Compared to the previous behaviour of this class, the lecture period went smoothly and most of the students contributed their observations and experiences of the two previous days. Some students who would not respond during previous classroom meetings started to match behaviour pattern terms which were brought out in the lecture portion to the names of individual students. Certain students were named as "energiser" or "harmoniser" a few students acknowledged that their behaviour was 'obstructive'.



When the students were given the agree-disagree statements there was a noticeable improvement in the class attitude toward each other. The most noticeable was the handling of the non readers by their peers. At first, the non-readers tried very hard to complete the agree-disagree statements by themselves, but when they had trouble understanding, they asked for and received help from their peers. The form of help offered was different than in the original classroom. Now the reading students read the statement or interpreted the statement for the non-reader, rather than just giving what the reader believed to be the answer. The general attitude indicated that all students, regardless of their ability, had the right to make the decision to either agree or disagree with each statement.

During the "fishbowling" session, it seemed as if the classroom as a whole had undergone a dramatic behavioural change.

1. Individual students who were randomly chosen to go into the fishbowl did so without fanfare. Previous behaviour patterns would have included those who would refuse to participate and those who would clamour to go; many would have been disruptive in their actions.

2. The 'observers' were attentive and tried hard not to influence the fishbowling group, either by baiting them or by disruptive behaviour.

3. There was an apparent attempt on the part of individuals within each group to model their behaviour after positive portions of the lecture material. These attempts to improve their behaviour seemed to be experimental but genuine.

4. The summary portion of this period was productive. Students spoke out their feelings and also listened as others gave their summaries.

On day four, during the science concept oriented group task of classifying measuring instruments, the scientific nomenclature vocabulary was used by students repeatedly within the group. Some instruments the students were handling had not been introduced in the content material. In spite of this, when the students learned the names of these instruments, the scientific names of the instruments became identified for the implements for everyone within the group.

Probably the most important indicator of success from the entire group dynamics course was the individual's handling of his self-concept rating. Every student in the class rated himself somewhere between 1 and 5 on a scale for each category. Many rated themselves consistently high, and some rated themselves consistently low, but no one student rated himself entirely "outstanding" or entirely "unacceptable".

Again during the science curriculum oriented group task at the start of the fifth training period, students used the vocabulary of the concept with greater regularity and ease. Although certain misuses of vocabulary were noted it was found that "on-the-spot" correction by peers or the teacher quickly eradicated misconceptions. The contracts executed by the students during the latter half of the fifth training period proved to be an indicator of attitudinal change. Most of the better students contracted as high as they had before, and the majority of the students with normal abilities tended to raise their expectations. The greater change, however, came from the students who had previously taken the attitude that there was not even a chance to try to make a contractual grade. All students committed themselves realistically according to the teacher's estimate of the students' abilities as demonstrated by the students' past records and standardised test scores.

### Conclusion

The results of a five-step group dynamics course for a junior high school integrated classroom led to several intuitive conclusions:

First, although the class had been in the same classroom grouping for one-half school year, they did not move into a functioning social group until after the "inclusion" activity of the first training day. By the end of the fifth training day the students appeared to have greater tolerance and understanding of one another.

Next, it appeared that individual students became more aware of their student identity as small group members compared to a classroom group member. Words which identified the "Harmoniser," "Energiser," "Coordinator," or "Obstructor" took on significant meaning for students who played those roles as well as for students who observed the role being played.

One of the more encouraging conclusions was the observation of increased effort on the part of the individual students to evaluate setting of goals within their reach.

There was no attempt to measure individual productivity during this programme; however, it must be concluded, on the basis of the evidence, that when small group activities were curriculum oriented there was a higher usage of content vocabulary. If the activity is designed for a group of students to experience some content material, those students must verbalize their experiences.

Finally, it was concluded that the complexity of the experiment in group dynamics implicates far more results than are discussed here. This paper has focussed on the individual students' behaviour and behavioural change. However, the teacher must also undergo change in order to implement small groups effectively.



# Case Method and the Case Study Approach

## Some Dilemmas of Use or Misuse

Rajendra Jayaswal\*

With increasing recognition of the significance of professional management in nation's socio-economic development, management education in India and in other developing countries, has grown relatively at a faster pace in the last two decades and it has reached beyond its traditional boundaries of business world to new fields like health, public administration, rural development and even forestry. It has not only led to the growth of a number of sector-specific management institutions, but has also facilitated fascination of western prototypes in the realm of educational methods and technologies. The craze for extensive use of case methods and emphasis on case researches has become a panacea for instruction device among the new conversionists, since they are eager to learn swimming as quickly as possible and have very little time at their disposal either to know the depth of the waterbody or direction of its current<sup>1</sup>. Learning by doing and developing insight through enquiry of an event or incident has become the crux of skill development in this realm of education. Such convenient notions have not only helped in distorting the proper understanding of the significance of cases as a teaching tool but have also created causticity, on scientific questions in the field of management. It is, therefore, contemporarily relevant to review the underlying propositions of case method and case study approach to sort out misconceptions and dilemmas of use or misuse; and to reveal the proper perspective/utility of these methodologies in overall sphere of management teaching.

### The Case Teaching Approach in Management

The advent of case method has been subjected to various interpretations as to its nature and form. In generic sense, it has been presumed as the oldest method in the world beginning with narration of the story of two women who both insist that the child is theirs, going to Soloman, and Soloman saying to them, that alright, I will cut this child in two and give each

of you half the child.<sup>2</sup> Historically, around 1870, the case method was introduced at the Harvard Law School and later in 1920's, this got a thrust into Harvard Business School with more scientific precision as a fundamental mode of teaching.<sup>3</sup> Currently, it is instrumental in teaching the skills of diagnosis, action planning, direction, monitoring implementation, appreciating other people's point of view, realising that for any situation there are many possible ways to deal with it.<sup>4</sup>

In later sixties, Robert W. Merry, a well known Professor of Business Administration at Boston, Massachusetts, in his foreword to Andrew R. Towl's noted work — *To Study Administration By Cases*, has rightly pointed out that "in management education jungle, among the most intensely preyed-upon creatures is the case method of instruction".<sup>5</sup> Without being critical of conventional pedagogical methods of teaching<sup>6</sup>, Prof. Merry has brought forth the desired perspective of case method in following paras :

"A reader should not infer from the fact that this book limits its consideration of instruction in business administration to the use of the case method that the case method is a panacea for all instruction in the field, or for all types of students, or indeed for all professors. The Harvard Business School, the citadel of the case method in this field, makes extensive use of lectures, collateral readings, textual notes, library research projects, field research projects, field trips, role playing, bargaining sessions, group reports, business games, and the like. In order to put together a course, a professor must know what his students bring to the course in the way of knowledge, educational experience, and business or other administrative experience. The professor needs to know what he himself brings to the course, what he may expect as a contribution from the study of the cases and from his own conduct of the class sessions. He should employ ordinarily a combination of methods, appropriately, whether before cases are discussed to provide pre-requisite knowledge or afterwards to crystallize or to challenge or to develop further ideas that have arisen from the discussion. While the enormous range of vicarious experience obtainable from the case

\*Senior Faculty in Sociology and Social Anthropology area, Indian Institute of Forest Management, Nehru Nagar, Bhopal - 462 003.



method cannot easily be duplicated by other means, other methods can bring desirable learning not readily available from the case method".<sup>7</sup>

He has also attempted to overrule excessive fascination of case method stating that:

"It is apparent that much of the criticism of the case method has been based on the erroneous assumption that cases were to be used exclusively without regard to the knowledge and sophistication of the students, without regard to the particular qualities of the instructor, without regard to the nature of the specific subject matter. The fact that the case method is a tool or technique used in conjunction with other methods appropriate to the circumstances and that the combination is planned by the faculty member undercuts such criticism. Furthermore, research developments and theoretical constructions do not replace cases; they become grist for the case discussions as they are drawn on for analysis or solution of problems".<sup>8</sup>

The same spirit has been adhered through entitling the very first chapter of his noteworthy work as — The Case Method : A Means, Not an End, by Prof. Towl, Director of the visiting Professors Case Method Programme at Harvard Business School, which was conducted during 1955-65 and was attended by 227 Deans and Professors from 119 schools of Business Administration from all parts of the United States.

In the realm of management education in Indian universities, a balanced use of different pedagogical methods looking to different area needs and use of case method/case studies in their proper perspective is yet to be arrived. A survey conducted in this regard

reveals significant variation, both in methods and weightage given to them in different management departments.<sup>9</sup> An analysis of responses of 50 teachers belonging to 35 different Indian universities has indicated the following results (Table 1)

Prof.'S.P. Gupta of Faculty of Management, Delhi University, who conducted the above analysis further reported that :

"The emphasis on the case method varies from department to department and even in the same department from teacher to teacher and paper to paper. It was found that in functional areas like quantitative techniques and managerial economics it was least popular. With regard to the proportion of Indian and foreign cases, the position was, Indian — 68% and Foreign — 32%. It may be pointed out that the use of Indian and foreign cases varied vastly from discipline to discipline. In areas like 'operation research', 'organizational development' and 'business policy', the foreign cases are used mostly because of the availability of data, whereas in disciplines like marketing, financial management, Indian cases are quite popular".<sup>10</sup>

Besides variations in the use of various instructional methodologies and the area specific requirements of teaching; another notable feature in the Indian context has been the multiplicity of case typologies, interchangeably representing both, the case and the case study. In general, such a situation has led to an understanding of a case or the case study as "a description of a situation, with the facts presented in fair amount of detail so that discussion can be fruitful".<sup>11</sup> On similar notions, typologies have been built. Such case studies have been broadly categorised into following types : (i) decisional

Table 1

<i>Method of Teaching/ Training</i>	<i>Percentage of weightage</i>	<i>Range of variation in the weightage given</i>		
Lecture	60.4	20	to	90 %
Cases	21.5	5	to	60 %
Syndicate methods; Lecture cum Case	5.2	5	to	20 %
Group Discussion and Seminars	5.0	3	to	20 %
Business Games	3.1	0	to	25 %
Role Playing	3.0	0	to	20 %
Brain Storming	0.6	0	to	10 %
In-Basket Exercises	0.5	0	to	5 %
Management Film	0.5	0	to	10 %
Audio-visual	0.2	0	to	20 %
	100.0			



type, (ii) appraisal type, (iii) historical case studies, (iv) live case studies, (v) project type, (vi) experimental case studies, (vii) incident type, (viii) informal type, (ix) fictional type, and (x) the audio-visual case studies.<sup>12</sup>

Very often in writings and in application, the distinction between case method and the case study has not been maintained and these terms have been used in synonymy, which has led to dilemmas of use and misuse.<sup>13</sup> A conceptual differentiation between the case method and the case study is utmost desired to be understood not only for proper usage of methodology but also to attain perfection and purposefulness in their applications. Therefore, a brief description of the case method and the case study approach is being presented here to enumerate the differences in basic notions and application perspectives.

### The Case Method

The case method as a pedagogy in management education rests on the belief that participants or learners can effectively improve their understanding of the management process and enhance their competence by studying, contemplating and discussing actual situations. This method can only become effective when it is properly understood and correctly used. The definition of case method also emerges with defining a case. Reynolds, in this context has rightly pointed out that - "a case is a short description, in words and numbers, of an actual management situation".<sup>14</sup> Generally cases present all those actions which have been taken by a manager in his real life situation. It is expected that students will study cases and come to their own conclusions about what should be done. It follows a discussion among the group to validate one's own decision and imparts learning about alternate courses of action. Thus, institution's selection of a sequence of cases helps in a course of study. Finally, case method pedagogy helps students in clarifying and drawing out certain concepts hidden in the cluster of cases. The ethos of case method is learning through analysis of own decisions and interactions. In essence, cases are well designed teaching tools which largely aim at transfer of learning in the field of decision making.

The cases, in specific deal with authentic management problems. Facts are presented or reported in a case, but nowhere evaluated. Paradoxically, it is what a researcher wants to discover. The idea of the decision case establishes the boundaries around the data or the relevant data calling for decision create a case. The relationship between point of decision and cluster of data is thus, the focus of discussion in the case method.

The prerequisites of effective use of case method

are — knowing properly to study, to discuss and analyse a case. Besides, conducting the case-class and case-writing also desire some normative order. Generally, students or participants are expected to study a case prior to class discussion. In the process of studying a case, they have to familiarise themselves with the cast of characters, leading actors, statement of the problem(s) involved, the nature of decision(s) facing the manager and the situation or environment which will effect such a decision(s). The case discussion also involves certain steps and prior training in logical reasoning is an essential condition for such a discussion. In the discussion process, participants are expected to analyse the present situation, put questions about causes and effects, forecast future circumstances, objectives, define actual problem hindering achievement of these objectives and enlist possible alternate action plans and evaluate their outcomes. Lastly, in the case analysis process, the major emphasis is on recommendation part. The participants defining central issues, pertinent areas of consideration, analysing relative significance of facts, investigating alternatives and finally drawing conclusions come to the statement of what they recommend and why they recommended so?

Apart from the above, an instructor conducting case-discussion is required to give prior briefings about the case, clarifying participant's doubts if any asking probing questions to initiate discussion, interpreting and evaluating points of view of participants and providing feedback, resolving conflicts, choosing speakers and summarising the discussion by high-lighting the significant points. Preparation of case notes prior to discussion may provide better command of the situation to the instructor as well as may lead towards fruitful discussion. A thorough training in instructor's notes preparation and conducting case-discussion has been recognised of utmost significance, so far effective use of case method is concerned. Finally, case writing is directly linked with discovery of case leads, which are often collected by a case writer during his visits to the field or an organization.

### The Case Study Approach

Case Study has been one of the earliest approach to the exposition of social reality and mode of data collection in some chosen social unit. It was introduced by Fredrick Le Play (1806-1882) in the field of social science research as a method of intensive study of some selected phenomenon in which one is interested. The focus may be a group of individuals, a situation or a community.<sup>15</sup> In this approach emphasis is on the study of social unit in its unique totality, as existing in reality without manipulating or interfering any conditions or



factors present in the environment.<sup>16</sup>

Herbert Spencer, an English Sociologist (1820-1903) first made use of case material in his ethnographic studies. In Psychiatry, Dr. William Healy first adopted the case study method to study the juvenile delinquent's problems. Robert Redfield and Oscar Lewis were among the first few Anthropologists, who made wide use of case study method in their study of primitive and modern cultures. In Social Psychology, H.A. Murray exhaustively used case study approach exploring the personalities of college men but the actual adoption and widespread use of the case study method as systematic research approach is attributed to Thomas and Znaniecki for their work – The Polish Peasant. They used personal documents like diaries, letters, autobiographies to reveal a continuous picture through time of the person's own interpretation of his experience and his relation with others.

Thus, life histories are basic source of gathering and organising case data in the case study approach. In essence, some of the key characteristics of case study can be briefly enumerated in the following manner: (i) it examines the phenomenon under study in its natural setting, (ii) data are collected through multiple means, e.g. personal documents, life histories and other records, personal interviews etc., (iii) only one or few social units (person, group, community, institution or organization) are examined at a time, (iv) the complexity of the unit is studied indepth, (v) there is no interference in the natural setting either through experimental controls or by manipulation of conditions, hence specification of dependent or independent variable is undesired in its realm, (vi) the outcome of the case study largely depend on investigator's insight and ability to integrate or organise data for logical inferences, (vii) data collection methods have to match with the nature of information required, therefore changes in site selection and data collection methods could take place as the investigator develops new hypothesis or insight to study the phenomenon from another perspective, (viii) the focus of the case study is mostly on the contemporary events, (ix) it is much useful to study 'why' and 'how' questions about any phenomenon, because these directly deal with operational links that could be

traced over time rather than inferring something either on the basis of frequency or incidence, (x) lastly, case studies are most suitable for exploration, classification, and hypothesis development tasks during the knowledge building process.

But gradually, the references in social science literature to the case study approach are decreasing on account of its non- statistical nature and it is often thought to be a kind of intuitive approach, heavily dependent upon participant observation and use of all sorts of personal data, therefore treated, less reliable or biased due to distortions resulting from personalised views of social reality. Systematic participant observation, qualitative coding of personal data and interview guides have been of recent introduction in the case study approach to make it more objective without distorting its holistic orientation.

Case Method Vs. Case Study

Terms in which case, case method, and case study have been frequently used and discussed may also add to confusion if they implied a partial description of the content without elaborating the proper theme. Therefore, a comparative analysis is utmost necessary to understand the perspective and usage adequately.

Case is a common term, both in case method and in case study but it connotes different meanings in each of the realms. Case in case method is distinctively recognised as a teaching tool, whereas in case study approach it represents such social unit which is being studied by any investigator, who is interested to explore its total existing reality. Thus, technically case study has to be differentiated from being referred to as study of a case or cases. Similarly, case method has a reference to a specific pedagogy, in which the process of teaching is revealed through use of case or cases. Lastly, case study approach is a research technique of organizing data viewing any social unit as a whole.

Beside the conceptualization, functionally also a kind of differentiation is needed to determine the parameters of use or misuse. An attempt in this direction could be made in the following manner, keeping in view the key characteristics of both in focus :

Case Method	Case Study
<ul style="list-style-type: none"><li>– Is a pedagogy.</li><li>– Case is a teaching tool or means of learning skills.</li><li>– Cases are written with specific predetermined purpose and use.</li></ul>	<ul style="list-style-type: none"><li>– Is a research technique.</li><li>– Case is a social unit under study in its totality.</li><li>– Case studies are conducted to know the unknown and build a knowledge base.</li></ul>



- Technically the case could be thought of as a way to find relevant boundaries around an organic body of data.
- It imparts self-learning through acquiring decision making and problem solving skills.
- It presents a different scope of enquiry in which attention is centred around only construct of the issues of action faced by the administrator or manager.
- It involves action questions.
- Is analytical in nature
- It aims to facilitate discussion.
- It attempts to depict real life situation.
- Mostly deals with particular incident or event or its frequency.
- It centres around some problem which is already known.
- In it, points of view are relatively more significant.
- In case study wholeness is the crux. Breadth and level of data, formation of indexes & types, and interaction in time dimension preserve this emphasis.
- It helps in developing indepth understanding about a phenomenon.
- The scope of enquiry is relatively more wide and an attempt is made to visualise the things in totality as contributing both to complexity and reality of the phenomenon.
- It reveals the social reality.
- Is descriptive in nature.
- Its objective is to conclude qualitative facts about reality.
- It narrates reality from a holistic point of view.
- Primarily concerned with totality within a given span of time.
- It centres around a phenomenon which is less known and requires further exploration.
- In this, indepth holistic comprehension is important.

So far use of written cases in case method teaching for studying is concerned, there could be no doubt about its relevance or validity since it attempts to involve – ‘life’s interaction with life’, where knowledge of the subject exposes new conditions in a living situation and provide the possibility for a creative step forward. The case method is significant also because search for the case allows access to a man’s own personal identity as distinct from his professional orientation. Finally, it is the mutual discovery of a body of data requiring discretionary action, the result of looking at a concrete situation from these different points of view. But how far case studies could be utilised as teaching devices, may certainly be a point of discussion on account of being a stereotyped social science research method. Further, it entails a discussion on disentangling the case study as a research tool from a teaching device or tool.

### Case Study as a Teaching Device

In spite of the fact that stereotype case studies continue to be used in social science research and it is a frequent mode of thesis and dissertation research, another notable fact is its popularity and vivid use in practice oriented areas like urban planning, public policy and management. In these emerging areas major questions confronted by an investigator are primarily related with : (i) defining the case or social unit under study, (ii) determining the relevance of the data for the purpose, and (iii) the treatment of data in such a

manner that it establishes a framework for discussion or debate rather being conclusive in itself. Answering these questions will require a deviation from stereotyped ‘explanatory’ case studies and major focus shall shift from totality or wholeness to specific contemporary events involving some changes in nature of enquiry. In this context, the essence of case study will be – to illuminate a decision or set of decisions : why they were taken, how they were implemented and with what result.<sup>17</sup>

In other words, preparing case studies for teaching purposes, entails selection of a topic or subject which one would like to deal. It will help in defining the boundaries of the case study. Besides questions intended to be answered by the case study or concepts to be explored have to be identified simultaneously with the selection of the topic. The unit of analysis in the case study will largely depend on such identification. The scope of the case study could be determined by doing a pilot study. But at no point, this should be treated relatively an easy method as compared to discovering or writing a case for case method since it also requires rigorous training on the part of the investigator and development of specific skills for the purpose. The most commonly desired skills, in a case study researcher could be listed as : (i) good questioning and listening ability, (ii) ability to interpret answers without being trapped by own ideologies or convictions, (iii) an adaptive, flexible personality for establishing proper rapport



with the situation, (iv) proper understanding of the topic and related issues which are being studied, (v) lastly, an unbiased attitude for being sensitive to contradictory evidence.<sup>18</sup>

Data collection during such case studies may be based on following evident sources : previous records and documentation, direct observation, participant observation and interviews. Conducting case studies in terms of data collection process, is slightly more complex because it levies a responsibility of methodological versatility on the investigator since he is expected to use multiple sources of evidence for creating a data base for the case study and establish a chain or relationship among the data through analysis, to address the initial proposition of the study. Often, it will require merging both quantitative and qualitative data for matching patterns, building an explanation or for a time series analysis.

Finally, case studies conducted for teaching purpose could be in both forms: oral or written, depending upon its nature and strategic use. The oral case study reports can be presented in either ways — as an oral presentation of the information and data which form the case or through a set of pictures or video-tapes. However, the written case studies are relatively advantageous because it may convey information more precisely. Generally, written forms of case studies are narrative in nature. The narrative information may be augmented using tabular, graphic and pictorial displays. There are varieties of narratives in which a case study may be presented. It could be a single narrative to describe and analyse a case or a multiple case version, presented in separate chapters or sections. Another narrative may be interrogatory or in question-and-answer format, or lastly, the entire case report may consist of the cross-case analysis, including both descriptive and explanatory chapters or sections. However, the significance, completeness of the case and its display of sufficient evidence, alternate perspectives and engagement will ultimately justify its goodness, for teaching purpose.

In essence, although case study approach can be used as a teaching device still its arena is quite distinct from case method because instead of involving action questions or opening divergent points of view, it would relatively lay more emphasis on understanding the phenomenon, subject or topic of the case study and discussions will be mostly limited within its given parameters. Thus, it would always be difficult to replace one by another for mere sake of the convenience and its

use or misuse will largely depend upon comprehension and proper evaluation of the purpose.

## Notes and References

1. "Management is a practice, a skill and it has to be practised to be learnt, like swimming". Jaideep Singh, "The Case Method — A Radical Educational Process". *The Indian Journal of Public Admn.* Vol 33, No.2, 1987, p.336.
2. Jaideep Singh, *ibid*, p. 337
3. Jaideep Singh, *ibid*, p. 338
4. Jaideep Singh, *ibid*, p. 337
5. Robert, W. Merry's Foreword in Andrew R. Towl's book — *To Study Administration By Cases*, Harvard University, Graduate School of Business Administration, Boston, 1969 p. xiii.
6. "Traditional academic teaching has many disadvantages. One major disadvantage of that form of teaching is that for years the student in a sense remains a passive listener. Someone said that words pass from the note-book of the teacher to the notebook of the student without really being in the mind of either. A person who is taught by that method, by and large, develops memory, but he does not develop all the other major facets that are really critical in functioning effectively and contributing to society. The one way communication system has a non-verbal message that someone knows and that someone else, the student, is really something to be filled up like a bank with notes. This process continuing over time can cause considerable damage to his personality and his sense of confidence and initiative, and also, it really does not develop the social, behavioural skills of interpersonal relations or the ability to analyse problems, problems of human affairs, problems of management, problems which require judgment, which require many factors to be evaluated, many dimensions to be seen, to be weighed, many consequences to be appraised, the various resistances during implementation to be diagnosed, visualisation of the various constraints and other difficulties that may come up and then choice of a strategy or an alternative". Jaideep Singh, *ibid*, p. 337.
7. R.W. Merry, Foreword in *To Study Administration By Cases*, *ibid*, p.x- xi.
8. *Ibid*, p. xi
9. S.P. Gupta, "Teaching Techniques in Imparting Management Education in Indian Universities — A Survey", *Indian Management*, July 1987, Vol. 26, No. 7, p. 21-23.
10. *Ibid*, p. 22-23
11. Jaideep Singh, *ibid*, p. 339
12. *Ibid*, p. 339-342
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# Countrywide Classroom Television Programme An Appraisal

Jagannath Mohanty\*

Harekrushna Sahu\*\*

## Need of the Study

Now-a-days science and technology have touched nearly all aspects of human behaviour. Television has extended its reach to the farthest corner of the country playing a significant role in the field of education. It has been successful in bringing outside world to the classroom and expanding the horizon of experience of the students which may not be possible otherwise.

The countrywide classroom project launched by the University Grants Commission (UGC) on August 15, 1985 is an enrichment educational television programme meant for college and university students. Huge amount is being invested on this project for the qualitative improvement of higher education. But it has not been ascertained whether these programmes are properly produced and are suitable to the psychological and educational needs and rationale of the clientele. It is therefore imperative to make a critical appraisal of ETV Programmes and to provide necessary feedback to the different producing agencies like AVRC/EMRC to make it more effective.

## Objectives

The following are the objectives of the present study.

- a) to study the different aspects of the ETV Programmes;
- b) to identify the strengths and weaknesses of these programme; and
- c) to suggest measures for improving these programmes.

## Scope

The Investigators took a sample of 20 programmes produced by different agencies like Educational Media Research Centres (EMRC), Audio Visual Research Centres (AVRCS) and other foreign agencies in

*\*Director, Academic Staff College, Utkal University, Plot No.205-A, Saheed Nagar, Bhubaneswar - 751 007.*

*\*\*Lecturer, Dr. P.M.I.A.S.E., Sambalpur.*

England and USSR. The programmes were telecast during the period from 23.04.1991 to 29.04.1991. The details of the ETV Programmes are given in Table 1.

## Limitation of the Study

The study was confined to UGC ETV Programme meant for College and University students only telecast from 23.04.1991 to 29.04.1991.

## Methodology

The investigators collected data regarding the objectives, content, format, visuals used, voice, language, pace etc. of UGC ETV Programmes with the help of an observation schedule.

## Analysis and Interpretation

The collected data were analysed and interpreted on the basis of its objectives, content, visuals used, voice language etc.

## Objectives

Since programme briefs were not supplied to colleges and universities before telecasting the programme, the investigators did not get any definite information regarding the instructional objectives of the programmes. Therefore they took some assumed objectives like knowledge, understanding and application of the UGC ETV Programmes for their assessment Table 2 shows the weightage given on the assumed objectives.

It is evident from Table 2 that 75 percent of the programmes have given maximum weightage on knowledge and 15 percent have given some weightage on knowledge. 60 percent of the programmes emphasized 'understanding' objectives to a great extent and 20 percent to some extent. 40 percent of the programmes emphasised 'application' objective to a great extent and 15 percent to some extent. Understanding and application objectives were not given emphasis in 20 percent and 45 percent programmes respectively. Hence it is revealed from this table that due weightage has not been given to understanding and application objectives.



### *Adequacy of Content*

Table 3 shows that 85 percent programmes were adequate, 10 percent were overloaded and 5 percent were inadequate with content.

### *Different Formats*

Table 4 reveals that lecture with demonstration format was adopted in 25 percent programmes, lecture with graphics in 05 percent, interview with experts in 40 percent and documentary films in 30 percent of the programmes. It may be suggested that other formats like group discussion, dramatisation and quizzes need be adopted for producing the programmes.

### *Visual Aids Quantitative*

It is evident from Table 5 that activities and real objects were used in 60 percent and 55 percent of the programmes respectively whereas two-dimensional & three-dimensional aids were used in 20 percent and 45 percent of the programmes.

### *Visuals (Qualitative)*

The proper and quality use of visuals are much more important than the number of visuals used.

From the Table 6 it is clear that in 75 percent of the programmes the visuals were quite clear and only in 5 percent programmes were partially clear. In 55 percent of programmes visuals were quite attractive and in 20 percent programmes these were partially attractive. On the whole, most of the countrywide classroom television programmes are clear and attractive.

### *Adequacy of Exposition of Visuals*

Table 7 shows the adequacy of exposition of visuals. It reveals that visuals like activity, three dimensional and real objects were used adequately in 40 percent and 50 percent of the programmes. Two dimensional aids like maps, charts, diagrams were used for short time in some programmes. The programmes in science topics particularly call for longer exposure of visuals.

### *Voice*

In teaching learning process voice plays a key role. It should be distinct to make the programme effective. Table. 8 shows the distribution of programmes according to the clarity of voice.

It is found from Table 8 that in 85 percent of the programmes the voice was distinct, in 10 percent of the programmes the voice was partially distinct and only in 5 percent of the programmes the voice was indistinct.

### *Pace*

Speed of the discussion or talk or commentary plays an important part in success of the programme (Table 9).

So far as the speed of voice of the programme is concerned in 95 percent of the cases it was normal.

### *Language*

The language of all countrywide classroom ETV Programmes was English. In 30 percent (1,8,9,11,12,15)

of the programmes English was spoken by foreign experts of England and USSR.

### **Major Findings**

- i) From the above analysis it was found that knowledge objective was given more emphasis in 75 percent of the programmes whereas understanding and application objectives were given importance in 60 percent of the programmes and 40 percent of the programmes respectively.
- ii) Only 10 percent of the programmes were overloaded with content.
- iii) Formats like dramatization, quiz, group discussion have not been given due emphasis.
- iv) Interview with experts, documentary films and lecture with demonstration were found more attractive.
- v) Most of the visuals used in the programmes were sophisticated and it was difficult on the part of the observer to view properly the two-dimensional visuals as they were on the television screen for very short time.
- vi) About 75 percent of the programmes were found very clear so far as their visuals are concerned.
- vii) 55 percent of the programmes were found more attractive and stimulating.
- viii) The voice of 85 percent of the programmes was distinct, in 10 percent of the programmes it was partially distinct and in only 5 percent of the programmes it was not distinct.
- ix) So far as speed of Voice is concerned, it was found that in almost all programmes the speed of voice was normal except only in one programme where the voice was slow.
- x) Medium of all programmes was English.

### **Suggestions**

- a) More programmes should be produced with emphasis on understanding and application objectives.
- b) Adequate time should be given to expose the two & three dimensional visuals so that the observer can see well and can get down the points easily.
- c) More attention should be given to formats like dramatization, group discussion and quizzes.
- d) As the programmes are telecast during working hours, it is not convenient for the students as well as the teachers to view the programmes. Therefore, the programmes should be telecast once in the morning hours and once in the evening hours.
- e) Objectives of various ETV Programmes should be announced before the telecast.



**Table 1 : Details of the ETV Programmes telecast during April, 1991**

Sl.No.	Date of Telecast	Title of the Programme	Producing Agency
01.	23.04.1991	Life of William Shakespeare	EMRC, Ahmedabad
02.	23.04.1991	History of Tuberculosis	AVRC, Osmania University
03.	24.04.1991	Wall Paintings of Darbar Guru Ramrai	AVRC, University of Roorkee
04.	24.04.1991	Biological Nitrogen Fixation	MCRC, New Delhi
05.	24.04.1991	Herbarium (Part.I)	MCRC, New Delhi
06.	24.04.1991	Personal Computer (PC)	CEMDC, Anna University
07.	25.04.1991	Folklore in Indian Context	EMRC, Hyderabad
08.	25.04.1991	Introduction to Sanskrit	EMRC, Poona
09.	25.04.1991	Tour of the Library of Congress	London
10.	25.04.1991	The Story of Words	EMRC, CIEFL, Hyderabad
11.	26.04.1991	A Talk with Malar Shah	EMRC, Gujarat University
12.	26.04.1991	To live or not	EMRC, Hyderabad
13.	26.04.1991	Planetarium – the Indoor Universe	AVRC, Madras
14.	26.04.1991	Psychiatric disorders	EMRC, Hyderabad
15.	27.04.1991	The Caspian People	U.S.S.R.
16.	27.04.1991	Understanding Cinema (R 15) Scene Analysis	EMRC, Poona
17.	27.04.1991	More than a Rock	MCRC, New Delhi
18.	27.04.1991	Understanding the Cinema (P. 10) Editing	EMRC, Poona
19.	27.04.1991	An Introduction to Terrukkuuttu	AVRC, Madurai Kamaraj University
20.	29.04.1991	Perma Culture	EMRC, CIEFL, Hyderabad

**Table 2 : Distributions of Weightage on the Assumed Objectives**

Extent of Emphasis on Objectives	To a great extent		To some extent		Not at all	
	No.	%	No.	%	No.	%
1. Knowledge	15	75	3	15	2	10
2. Understanding	12	60	4	20	4	20
3. Application	08	40	3	15	9	45

**Table 3 : Adequacy of content of the Programmes**

Overloaded		Adequate		Inadequate	
No. of Programme	Percent	No. of Programmes	Percent	No. of Programmes	Percent
2 (2,6)	10	17 (1,3,4,5,7,8,9,11,12, 13,14,15,16,17,18, 19,20)	85	1(10)	5



**Table 4 : Distribution of Programmes according to different formats**

<i>Sl.No.</i>	<i>Name of the Format</i>	<i>No. of Programmes</i>	<i>Percentage</i>
1.	Lectures with Demonstration	5 (2,5,10,13,18)	25
2.	Lectures with Visuals/Graphs	1(16)	05
3.	Interview with Experts	8 (4,7,8,11,12,14,19,20)	40
4.	Documentary Films	6 (1,3,6,9,15,17,)	30

**Table 5 : Distribution of Programmes according to Visual Aids**

<i>Visuals</i>	<i>To a great extent</i>		<i>To some extent</i>		<i>Not at all</i>	
	<i>No. of Programmes</i>	<i>Percentage</i>	<i>No. of Programmes</i>	<i>Percentage</i>	<i>No. of Programmes</i>	<i>Percentage</i>
1. Activities	9 (No.2,5,6,9, 15,16,17,18,19)	45	3 (No.1,10,13)	15	8 (No.3,4,7,8, 11,12,14,20)	40
2. Two Dimensional	NIL	—	4 (No.5,9,14,16)	20	15 (No.1,2,3,4,6, 7,8,11,12,13, 15,17,18,19,20)	75
3. Three Dimensional	6(No.1,3,9,10, 13,20)	30	3 (No.2,4,5)	15	11(No.6,7,8,11, 12,14,15,16, 17,18,19)	55
4. Real Objects	10(No.2,3,5,6, 9,13,15,16, 17, 18)	50	1(1)	5	9(No.4,7,8,10, 11,12,14,19, 20)	45

**Table 6 : Distribution of Programmes according to the use of visuals**

	<i>Fully</i>		<i>Partially</i>		<i>Not-at all</i>	
	<i>No of Programmes</i>	<i>%</i>	<i>No of Programmes</i>	<i>%</i>	<i>No.of Programmes</i>	<i>%</i>
<i>Clear</i>	15 (1,2,3,4,5,6,9,10, 13,14,15,16,17, 18,20)	75	1(19)	5	4 (7,8,11,12)	20
<i>Attractive</i>	11(1,3,6,9,10,13,15, 16,17,18,19)	55	4(2,4,5,20)	20	5 (7,8,11,12,14)	25



**Table 7 : Distribution of Programmes according to adequacy of Visual Exposition**

Activity	More than Adequate		Adequate		Inadequate	
	No. of Programmes	%	No. of Programmes	%	No. of programme	%
Activity	2(5,6)	10	8(2,9,13, 15,16, 17, 18,19)	40	1(1)	5
2-Dimensional.	NIL	—	3(5,10,14)	15	2 (9,16)	10
3-Dimensional	NIL	—	8(1,2,3,5, 9.10, 13,20)	40	1(4)	5
Real Objects	1(6)	5	10(1,2,3,5,9,13,15, 16,17,18)	50	NIL	—

**Table 8 : Distribution of the Programmes according to the Clarity of Voice**

Distinct		Partially Distinct		Indistinct	
No. of Programmes	%	No. of Programmes	%	No. of Programmes	%
17(2,3,4,5,7,8,10,11,12, 13,14,15,16,17,18,19,20)	85	2(1,9)	10	1(6)	5

**Table 9 : Distribution of Programmes according to speed of the voice**

Quick		Normal		Slow	
No. of Programmes	%	No. of Programmes	%	No. of Programmes	%
NIL	—	19 (1,2,3,4,5,6,7,8,9, 10,11,12,13,14, 15,16,17,19,20)	95	1(18)	5

## Restructuring Higher Education in India

(Contd. from page 2)

### Give Educational Institutions Greater Autonomy and also Insist on Greater Accountability

Give greater autonomy to the teachers of a college or university in running academic and administrative programmes, but at the same time let their performance be evaluated periodically in a completely objective manner and there should be no hesitation in weeding out incompetent teachers, departments and even institutions. Efficient use of tax-payers' money should be insisted upon.

### Raise Students' Tuition Fees Significantly But Give More Scholarships, Subsidized Jobs and Bank Loans to Students

Students' fees should cover 40 to 50 percent expenses in higher education. However in order to ensure that students of poorer classes are not denied higher education, we should :

- Increase the number of scholarships to meritorious students,
- Provide for subsidized jobs to students, as for ex-

ample in adult literacy programmes, in business and small scale industries and even in college and university work. Those who provide part-time work to students should get a subsidy from the government, but the students should be asked to work for their education. M.Sc and Ph.D students may be paid for helping school and undergraduate students with their tutorial work, thus reducing load on the teachers, and

- Bank loans should be given generously to students against their future earnings.

### Concluding Remarks

An excellent higher education system is a vital necessity for the survival of any nation in the modern highly competitive world, based on science and technology. We can have such a system if we have the will to have one, even, in the present socio-political setup. We need a system in which every student will be motivated to learn, every teacher will be motivated to teach and every educational administrator will have the motivation to build an excellent institution.



# Centres of Integrated Thought and Action

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Prof. Yash Pal, former Chairman, University Grants Commission, delivered the Convocation Address at the eighth convocation of the North Eastern Hill University, Shillong. In a very thought provoking address he called for a transformation of our universities into living and vibrant organisations. He said, "More than ever before our universities have to become the centres of such integrated thought and action — not laboratories or specialised educational institutions and institutes. This would require a national appreciation of this responsibility - but such responsibilities are not given, they are won. Therefore we need to go much beyond our traditional ideas of a university. We certainly need to educate our young, to give them knowledge and skills in individual disciplines and society at large .... We need to break the impenetrable walls between departments, indeed we should admit students to the university and not to separate departments. Teachers should also have joint appointments." Excerpts

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During last few years we have had some difficult periods. In fact, we are in the middle of one. At the time I am writing this the elections are half over and the next round is about to begin. Rajiv Gandhi has been assassinated. Every day tens of people are killed in one part of the country or the other. We have had several episodes of rioting. Fester-

convocation of this university? What can the students and teachers of this university do in regard to these obvious issues? After all everything you have said is the responsibility of the Government, or the other wings of administration, go tell them".

I don't hesitate to tell them, but

## CONVOCATION

ing problems in Kashmir, Punjab and elsewhere also still fester. Why are we in this mess?

Why are we still largely illiterate? Why so many of our people still do not have any sanitation facilities, or drinking water? Why do we still go on breeding at such a high rate when we do not have enough to eat or places to live?

You may well say to me, "why are you raising all these questions at the

should you put me off in this manner, you would be only partly justified. Our problems arise largely because we have not been able to create the right combination of values, psyche and competence in our society. We have not created the theoretical base, or the practical relatedness on which the Indian society could have been recreated in the later part of the 20th century. Even more than other sections of our society, the elements of the pic-

ture and identity we have built for ourselves, our students and the people at large, have been collected from the Super-markets and junkyards of ideas, mostly the remains of scholarship from abroad, or from prejudiced pamphleteers and journalists within the country. We even borrow the list of topics worthy of our attention from the index of courses in foreign universities, adding a few others as a compromise with language and religious chauvinism, or with those who would want a degree without really learning very much.

National laboratories and specialised institutes may have an excuse that they are concerned primarily with their particular area of expertise and building larger perspectives is outside their competence and responsibility. I will not accept this excuse, and certainly not from the universities, which should encompass the whole universe of knowledge and understanding. Unfortunately, our universities have become preoccupied with derived knowledge, and even that has been fragmented into areas, disciplines and departments with iron walls in between. How often the economists, the social scientists and physicists have joint seminars — unless they are about pay-scales of teachers? Even how often do scientists from different departments meet to discuss problems?

What is the necessity of doing all this, you may ask? The answer lies in the fact that we are so different, and the world changes so fast these days that the potential and possibilities of happenings in politics, trade, technology, including science, impact each other continuously. Also, strategies, and even thinking paradigms, may be completely altered because someone has invented a better paper clip or more accurate version of the Patriot missile! Just take the Patriot — like



missile and gauge its impact on the strategic planning and geopolitics. Could'nt it have been folded into our thinking even before its dramatic demonstration in the Gulf war? Is it possible for us, for example, to shift our emphasis to relatively inexpensive defence systems instead of wasting our resources in equipment-oriented and manpower-heavy armed forces? Who will analyse this? Or pose these problems? Which department in the university? Technology? Defence studies? Political Science? International affairs? Management? Physics? Economics? Are'nt all these needed? Do we have anywhere except a university where they can be found together? But are they ever?

Everyday one encounters social problems and technological challenges which come to us as surprises — as crises we must somehow face, as fires we have to fight. Let us take the technological onslaught of the developed world. Pick any item. They introduce optical communication, their salesmen come our way, and we start putting in optical communication. Could'nt we have started earlier? We could'nt because we always wait, like responsible managers, till "the technology has matured". What other course then we have except to follow — and say we are trying to catch up? Well, "catching up" as an activity has been abolished in the present day world. Those who are ahead, usually get further ahead. The only way of "catching up" is to make a detour, sometime through unexplored territory. That means doing a few things no one has yet done. Which implies there can be no waiting for "mature technology". Unless some such detouring goes on within the university system, our students will entirely lack the spirit of self-confidence this requires.

Let us talk a little more about "catching up" and "detouring". Many a time the catching up slogan originates in a mindset where we have accepted the proposition that ultimately our destiny is the same as the stage which the Western countries have already reached. Is'nt it a valid question to ask whether this is a good proposition? Is it feasible? Or even desirable? Does it not imply that we have accepted that ultimately our goal is to acquire a status which will at best be of a derivative culture?

Even if we were for a moment to assume that "we must face the reality on the ground and there are just no other alternatives," think about the upheavals you have ahead of you. We are already a very unequal society, and these inequalities are increasing because a tiny fraction, perhaps 10%, of our people, is beginning to join the global middle class, while the rest remain in the primordial state of "no clean water to drink, no sanitation facilities, very few jobs, no place to live, poor educational facilities and endemic illiteracy and health problems". Western style way of development in the country will, for a long time to come, be confined to a ten percent minority moving faster than rest of the country, at the cost of rest of the country. That is clearly non-sustainable. Indeed a whole lot of unrest in the country at this time is because of this division between haves and have-nots. Also lot of ills, crime and violence. In to-day's state of human consciousness, this will not be allowed, even if considered desirable. Of course from my point of view it is utterly undesirable to consciously select a development stream which enhances inequalities, even if it provides faster overall growth.

Where are such thoughts being argued and discussed? The only

possible places for these are in the universities. In the universities, but not only in the faculties of social science and humanities. That would not take you anywhere except, sometimes, to the unrealistic exhortations to go back to our glorious past. They must be discussed and explored together with the faculties of science, engineering and agriculture, because without exploring entirely new ideas in techniques and technologies, we cannot stimulate the growth of an alternative perspective of development. When economists and social scientists think of alternatives, they tend to base them on possible applications of techniques and technologies which are already in existence, mostly in the West. That will just not do, because these technologies carry their own cultural stamp, and often have a mind of their own, in addition to the fact that the world over they would become obsolete by the time we operationalise them.

More than ever before our universities have to become the centres of such integrated thought and action — not laboratories or specialised educational institutions and institutes. This would require a national appreciation of this responsibility — but such responsibilities are not given, they are won. Therefore we need to go much beyond our traditional ideas of a university. We certainly need to educate our young, to give them knowledge and skills in individual disciplines and society at large. We have to make our knowledge less naked, less sterile. We have to provide clothing to the knowledge, some hooks to entangle with reality and thus make it more productive. We need to break the impenetrable walls between departments, indeed we should admit students to the university and not to separate departments. Teachers should also have joint appointments.



All this may sound a bit radical, but I believe that in the state we are in, even this is not radical enough. What good is our scholarship and learning, our history, philosophy, economics and psychology, or our astronomy, biology, physics and cosmology, if there has not been the slightest advance in the way our people relate to each other, the world and the whole of creation? We have been content to leave this function often to the least educated and most bigoted members of our society, and when we do address these questions we do so only within the boundaries of our departmental turf which is, to say the least, incomplete.

What good are our achievements, I ask, in the world of thought and ideas, in science and technology, if we still rank below 130th amongst all countries in the world in terms of the Human Development Index, when 40% of the world's illiterates live in this country and close to half of those without safe drinking water and sanitation facilities? How is it that our scientists and engineers perform rather well when they are insulated into mission-oriented agencies like Atomic Energy or Space where the problems and referrals are all western, or even when they are let loose in a foreign market economy like that of the United States, but do not know how to come to grips with the specificities of our own problems? Is our teaching and learning, at its best, tuned to the infrastructure and environment outside the country and intellectually and emotionally distant from what we have to do here? Is it possible that slotted experts can fit in when slots are well defined, as in the West, but in our country we have yet to define our slots? I tend to think, rather, that we will always need greater creativity, in all disciplines, if we have to flourish in a world so dominated by Western ways of perceiving and doing things. It is very easy to be

seduced into believing that there are no goals except those defined by the direction others have taken. We need to grow people who will have, besides competence and creativity, a feel, concern and empathy with the country as it is. Most of us, in laboratories and universities are somewhat short on the "feel, concern and empathy".

Thoughts of this kind led, about a year ago, in fact on 2nd July, 1990, to a letter to a number of friends, and has resulted in a proposal for a movement called Mass Action for National Regeneration (MANAR). This was discussed in the national press for a while before the social and political happenings of last many months submerged it — the Mandal agitation, the Ayodhya episode, fall of the central Govt, coming in of the new one, the elections etc. Yet, it is remarkable how much support the idea of such a movement has had, irrespective of political affiliation of various people. The central features of this proposal may be summarised here.

Many of our basic problems cannot be solved through mere tinkering. We need a major thrust where we should get out of our cetrified roles for a deep engagement with society. In this process we may make a major dent on some of our basic problems like literacy, drinking water, sanitation, health, environment, population, and, simultaneously, transform ourselves, our teaching learning processes, definition and content of our courses, perhaps bringing about a new relationship with our society.

It is suggested that millions of students and teachers, scientists and social activists should partly move their teaching, learning research and action outside their present buildings and laboratories for a deep involvement with society. They should go out with all their expertise and, through impact of

this strong coupling, come back transformed.

The hope is that we would be able to make our knowledge more fertile, develop the empathy that is lacking, remove some of the cynicism, learn also from the ethnic wisdom, fill in the gaps between what we know and what needs to be done. Also, in the process we may end up accomplishing some things which we have not been able to do for decades.

In this talk I do not have the time to go into the details of what has been discussed and how far we have moved in developing this idea. Leaders of all major political parties have actively supported it. Teachers' associations have shown enthusiasm, besides Vice-Chancellors, Principals and scientists. Some work has been started in Tamil Nadu and a few other universities.

Time has come, now that we have a little breathing space, to move full steam ahead. I feel that only through constructive upheavals of this kind we will be able to make some holes in the walls that so often separate knowledge from knowledge, and knowledge from action, in our stratified and "cubicked" society. Only this way initiative will be won at the grassroots. Only this way our development and modernization will get related to our industry and agriculture, and our dreams to the stirrings in our land. It is also possible that millions of young people and not so young teachers and researchers engaged in such a venture would create an ambience of National Regeneration where some of the corrosive animosities which have taken hold of our society will be somewhat neutralised, and then eliminated. I frankly do not see any other way. Let us get into a meaningful involvement to provide a coherent channel for myriads of divergent tendencies in our society today.



# Orientation Programme for Teachers

The Academic Staff College of the Himachal Pradesh University recently organised its four-week Eighth Orientation Programme. Inaugurating the programme Prof. K.C. Malhotra, Vice-Chancellor, called upon the teachers to become a running stream and not a stagnant pool of knowledge. He said that each teacher must be fully aware about his surroundings, socio-economic developments in the society and about how thoughts emerge. Prof. Malhotra emphasised that a teacher in tertiary education was the hub in developing potentials of human mind and could contribute only if he was himself fully developed as an integrated personality.

During the programme, a variety of orientational techniques were applied. In this process, the needs and requirements of participants, interactional feedback and available

room as well as in the society.

Prof. S.N. Saraf, former Vice-Chancellor, Sri Sathya Sai Institute of Higher Learning, Prashanthi Nilayam and Educational Advisor to the Govt. of India, in his valedictory address said that teacher was the most crucial element in the social fabric. The teacher must internalise the national values and present himself as the model to the society, he said. In his presidential remarks Prof. K.C. Malhotra, the Vice-Chancellor of the Himachal Pradesh University, stressed the need for self introspection on the part of teachers. Prof. Malhotra highlighted the importance of teachers training and said that even an iota of change in the behaviour of teacher could bring tremendous change in the society. He appealed to the teachers to take a lead in saving the present day society which was undergoing very dangerous currents.

## CAMPUS NEWS

resources were suitably utilised. The main techniques used were quality circles, syntactics, workshop, extempore presentation, role playing, warming up, report writing, book reviewing, brains trust, think tank etc. A special emphasis was laid on informal and non-formal interactions, reflections and mutual learning.

In addition to the improvement in general awareness of the participants and inculcation of teaching skills, attempts were made to inspire the participants to act as teacher, philosopher and guide in the class-

Over 30 teachers from different universities of the country participated in the programme at which sixty Resource Persons belonging to different fields of knowledge interacted with the participants.

### School of Correspondence Courses at Nagarjuna Varsity

The Nagarjuna University has started a School of Correspondence Courses. Sri M.Nagarjuna, District Collector, who inaugurated the School, stressed the need for the system of correspondence educa-

tion to meet the increasing demand for education. He also pointed out that correspondence education was less expensive from the point of the State with wide coverage. He appreciated the efforts of the University in providing this facility.

Prof. C.V.Raghavalu, Principal of the University College, in his welcome address, mentioned that the opening of correspondence courses was a long felt need and that it provided access to higher education to all. Prof D.Rama Kotaiah, Vice-Chancellor, who presided, said that much of the burden on the State Government could be reduced through correspondence courses. He suggested that all the teaching and non-teaching staff should co-operate adhering to time-schedules in preparation of lessons, printing and mailing them to students.

### Indian Scholars at International Mathematical Olympiad

Six Indian competitors who participated in the International Mathematical Olympiad held recently in Sweden won silver and bronze medals. The students who bagged silver medals were: Mr. Moses Samson Charikar, Mr. K. Soundararajan and Mr. Rina Panigarhy. Those who bagged bronze medals were: Mr. Niranjana Nilakantan, Mr. Sriram Thiagarajan and Mr. Himanshu Nautiyal. All these students are National Talent Search (NTS) scholars of the National Council of Educational Research and Training (NCERT).

The Indian scholars were sponsored for the International Mathematical Olympiad by the Union Ministry of Human Resource Development (MHRD), to encourage talented students of mathematics in Indian schools. The National Board



of Higher Mathematics (NBHM) had held the national level competition to select participants to the international contest, besides training them.

India secured the 10th position this year, as compared to the 16th position in the 1990 Olympiad held in Beijing (China), and the 25th position in the 1989 Olympiad held in Germany.

### **Course in Child Care Services**

The Indira Gandhi National Open University (IGNOU) has introduced a course which provides an orientation towards organising services for children such as day care centres, creches and pre-schools upto the age of six years. The course titled "Organising Child Care Services", is a part of Bachelors' degree.

The course describes the basic concepts of child development and provides information about the growth and development of children from birth to six years of age. A description of the basics of health care and nutrition is also included in the text. The course explains the principles of planning play activities for children. The practical component of the course requires the person to observe and interact with children and conduct play activities with them.

The course, thus, besides providing an orientation towards a vocation in child care will help one in day to day interaction with children. Women as a group are the most involved with children and this course will be of special interest to them.

### **Vanamahostavam-91**

Prof. Jafar Nizam, Vice-Chancellor of Kakatiya University stressed the need for taking up plantation on a massive scale with a view to maintaining ecological balance and thereby offsetting the world disaster. He was speaking as the chief guest at the Vanamahostavam-91 organised by the National Service Scheme (NSS) of the University recently.

Prof. Nizam expressed concern over the large-scale destruction of forests and indiscriminate use of forest wealth. He advised the NSS volunteers not to celebrate the vanamahostavam every year as a ritual but as something vital to human existence on this planet. The NSS volunteers should therefore take up the onerous responsibility of educating the people about the need to preserve forests, he added.

## **News from Agril. Universities**

### **USAID Scientists at HAU**

Dr. Jarek Clerk and Dr. Sujan Singh, Programme Specialists, United States Agency for International Development (USAID) recently visited the Haryana Agricultural University to review the research work being done under USAID projects. They visited the constituent colleges of the university and held detailed discussions with the scientists working in the USAID assisted projects. The visitors were highly impressed with the work taken up by the scientists under the 3 USAID projects namely: Embryo Transfer Technology, Studies on Intra-cellular Blood Protista and Utilisation of Biodegradable farm waste for livestock feed.

In a meeting with the Vice-Chancellor, Dr. A.L. Chaudhry, the visitors appreciated the quality of the research work being done at the university. They assured to expedite the provision of additional facilities as asked for by the HAU resea-

rchers to further accelerate the research work.

### **High Yielding Variety of Rajma**

Pulse Research Project of the Mahatma Phule Krishi Vidya-peeth, Rahuri and Agril. College Pune have evolved a new variety of Rajma bean HPR-35. The variety release committee of the four Agricultural Universities in Maharashtra recently approved this new variety.

The new variety of Rajma bean is recommended for submountain and plain zone of Maharashtra. The new variety yields 25 to 30 percent more than prevailing cultivated variety entitled Waghya. The grains of new variety are bold, lustrous purple coloured which fetches  $1\frac{1}{2}$  times more price in the market than Waghya.



## Countrywide Classroom Programme

Between 12th August to 17th August, 1991 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The Programme is available on the TV Network throughout the country.

### 1st Transmission

1.00 p.m. to 2.00 p.m.

**12.8.91**

"Remote Sensing - A Curtain Raister"  
"Optical Alignment - III"

**13.8.91**

"Molecular Spectroscopy"  
"Sources of Knowledge"  
"Insecticide Impregnated Bed-nets for Malaria Control in the North Eastern India"

**14.8.91**

"The Excavator"  
"Women's Studies in India - II Work & Family"  
"Radiation and Its Application"

**15.8.91**

"Special Programme on Countrywide Classroom on its 8th Anniversary"

**16.8.91**

"Sampling - I"  
"Self-esteem in Children - I"  
"A Conservation of Edible Fungi"

**17.8.91**

"Laser"  
"Ikebana"

"Sustainable Development - I"

### 2nd Transmission

4.00 p.m. to 5.00 p.m.

**12.8.91**

"Surface Tension"  
"What is Quality?"  
"Dantiwada Project Participatory Water Management"

**13.8.91**

"Instrumental Techniques"  
"AIDS - II"

**14.8.91**

"Solar Research - V"  
"Destiny's People : Stories of South Carolina"

"Principles of Biosystematics - IV"

**15.8.91**

"Special Programme on Countrywide Classroom on its 8th Anniversary"

**16.8.91**

"Down Syndrome"  
"Urban Survival - Women Workers in the Unorganised Sector"  
"Learning From Nature - III"

**17.8.91**

"Non-Industrial Glazed Pottery and its Development in India - II"  
"Career Guidance - Civil Services"

### UGC-NBT MoU on Book Production

A Memorandum of Understanding (MoU) has been signed be-

tween the University Grants Commission (UGC) and the National Book Trust (NBT) to integrate the schemes for production of books for higher education sector in both the organisations. This will ensure that more books are written and published by coordinating the efforts of the two national organisations. The MoU was signed by Prof. S.K. Khanna, Vice-Chairman, UGC and Shri Anand Sarup, Chairman, NBT on behalf of their respective organisations.

According to the MoU the NBT will constitute a national committee with the representation from the UGC and other national bodies. It would also have some individuals of eminence. This Committee would provide overall guidance and directions in respect of the schemes of the UGC and the NBT for the preparation and publication of text/reference books. Under the national committee, various core committees would be set up to identify the areas in which books need to be brought out as also for suggesting authors, resource persons to evaluate the synopses of the proposed books and to carry out surveys of books already published for improving the quality of educational publishing.

In the collaborative arrangements, it has been agreed that the UGC will continue to provide assistance to authors under its scheme for preparation of university level books by Indian authors while the NBT will operate its scheme of the subsidised publication of books.

An author will be assisted by the UGC to the extent of Rs. 15,000/- for preparing a manuscript acceptable to the core-committee. The accruing royalty from the published book(s) will be received by the author(s) directly as per the procedures laid down by the NBT. The UGC will also provide assistance to the extent of Rs.10,000/- for preparing monographs.



Originated during 1970-71, the Commission's scheme of the preparation of university level books by Indian authors is designed to provide financial assistance to teachers and scholars from institutions of higher education for writing textbooks, monographs and reference materials for use in universities and colleges. So far 182 books have been published under the scheme while another 937 publication projects are in different stages of implementation.

## Fora for Interdisciplinary Research

The University Grants Commis-

sion (UGC) has decided to assist the universities in creating fora for promoting and undertaking research and studies of interdisciplinary nature involving researchers from various departments of the universities. This has been done in view of the emerging trend the world over for interdisciplinary approaches to many of the problems which are becoming more and more important both in the social sciences and in the physical sciences. In many areas of modern technology the physicists, the mathematicians, the engineers and others have to come together to do research and undertake developmental projects. In the social sciences also the economists, the sociologists, the

anthropologists and other experts have to come together for research and studies in areas concerning vital issues relevant for the society.

On a suggestion from the Indian Association of Social Science Institutions (IASSI) and the Association of Indian Universities (AIU), the UGC has considered the desirability of having a forum in individual universities for interdisciplinary research and studies. The UGC has agreed to provide assistance upto Rs.50,000 per annum to each university for setting up such a forum. This scheme of the UGC will be implemented during the Eighth Plan period.

# CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be Contacted
August 19-30, 1991	International Course on Planning and Design of Pumping Works	To provide fundamental knowledge on pumping systems and comprehensive approach to planning and design of pumping works	Asian Institute of Technology, Bangkok, Thailand	Mr. Wiboon Boonyatharokul, Program Specialist, Continuing Education Center, Asian Institute of Technology, GPO Box 2754 Bangkok-10501 Thailand
Sept. 16-20, 1991	Regional Symposium on Educational Testing	Theme : Reforms and enhancements in educational testing system, test contents and formats in a country (or region)	The National Education Examination Authority (NEEA), People's Republic of China	Mr. Yang, Xuewai, Director, National Education Examinations Authority (NEEA), State Education Commission, 30 Yu Quan Road, Beijing 100039, The People's Republic of China
Sept. 17-18, 1991	Fourth Annual Conference of the Asian Association of Open Universities	To explore the need, desirability, practicability and relevance of face to face components in Distance Education	The Open University of Sri Lanka, Colombo, Sri Lanka	Ms. C Suriyapperuma, Organising Secretary, AAOU Conference, Open University, Box 21, Nugegoda, Sri Lanka
December 9-26, 1991	Winter School on use of Statistical Software	To introduce college and university teachers to computer-oriented statistical methods and to train them in the use of statistical software packages.	Indian Statistical Institute, Calcutta	The Course Director, Winter School on use of Statistical Software, Computer Science Unit, Indian Statistical Institute, 203, Barrackpore Trunk Road, Calcutta-700 035



## A Well Written Document

G. B. K. Hooja\*

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J.C. Aggarwal. **Ramamurti Report, 1990 on National Policy on Education in India: Major Recommendations, Evaluation and Corrective Measures.** Delhi, Doaba House, 1991. 144p. Rs.120/-.

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While opinions may differ on the various recommendations made by the Ramamurti Committee, there is no doubt that for some time to come, its report shall be referred to by experts and practitioners of education, even as the National Policy on Education, (1986), Kothari Report (1966), as well as Radhakrishnan Report (1948) have been cited during the past several years. But it may be added, in parenthesis, that this would need free accessibility of the report. As it is, the present reviewer had to go to the Director-General of National Literacy Mission to obtain a copy of the same.

Soon after the final report was published, the reviewer had the opportunity of being present at a symposium organised by the Academic Staff College of Rajasthan University. Present at this symposium was Dr M.G. Bhatawdekar, an honorable member of the Acharya Ramamurti Committee. He had in his possession a copy of the report and when asked if the reviewer could have it, the extra-cautious reply was that it had not yet been released for public scrutiny, although the press reports said that it had been presented to the Parliament.

\* *Former Vice-Chancellor,  
Gurukula Kangri Vishwavidyalaya,  
A- 15-A, Vijaypath, Tilak Nagar,  
Jaipur - 302 004.*

My purpose in referring to this episode is to make the point that our criteria of "classification" should be liberalized and further that this report should be made freely available and widely circulated amongst not only the teaching community but also the students and their parents, as they are respectively the producers/consumers of education, as well as others who are interested in the educational problems, besetting India, as she stands at the threshold of the 21st century. The document should be available not only in English but also in the other national languages of India and should be discussed threadbare in various fora so that the millions of teachers who form the delivery line of the educational system and others

who fall in the category of policy-makers, viz, the politicians, bureaucrats and the media persons reorganize their thinking in the light of the wisdom contained in this report.

From this point of view, J. C. Aggarwal, has done a singular service. As he points out, the book under review is intended to serve as a handy source of information for the cross section of population interested in revamping the educational system of India.

The book has 12 chapters. Chapter One provides an overview of the growth of the educational system through the ages, constitutional provisions, educational expansion and periodical reforms and the reports of various commissions and committees who have deliberated on educational issues from time to time. Chapter Two includes the main directions contained in the NPE and their implementation. Chapter Three throws light on the working of the Committee for Review of NPE. Chapter Four incorporates the main observations and recommendations of Committee. Chapters Five to Eleven summarise the recommendations made with regard to various levels and stages of education. These chapters also portray the present

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scenario by giving useful educational statistics. The last chapter is devoted to evaluation of the report and seeks to discover suitable strategies for carrying out educational reforms in India. This chapter also incorporates an analysis of issues like financial aspects, determination of priorities, school and industry linkage, vocationalisation of secondary education, "mandalization" of Navodaya Vidyalayas, educationalisation of educational administration. Press and public views on education also feature in this chapter.

All in all the book under review presents a good resume of the intent and purpose of the Ramamurti Committee Report and the author's fairly well conceived analysis.

The observations of the author on the various recommendations of the Ramamurti Committee Report are thought provoking and tinged with realism. Says the Author, "The report of the Committee, notwithstanding its scholarly treatment and 18 excellent essays, fails to generate strong optimism that it will be implemented successfully, for it has not suggested any time bound programme, based on the availability of funds. It should have given clear cut targets to be achieved in a time bound framework, which the Central and State educational planners and administrators could monitor factually; otherwise this is the first exhaustive document after the Kothari Report of 1964-66." On the first impulse, one is inclined to agree with the learned author that the upshot of this exercise is that we have yet another well written document, but not a plan of action. It cannot be gainsaid that unless appropriate action follows this report, it will remain yet another exercise in futility.

However, viewed in perspective, can we blame the Committee for this lack? The circumstances in

which the Committee was formed and has presented its report are well-known. Within the constraints, in which it worked, the committee has done its best. It has presented a blueprint for an educational system which may well lead the nation towards the growth of an enlightened and humane society. It is now for those who hold the levers of power in their hands to deliver the goods. To borrow the environmental slogan, they must think globally/nationally, but act locally. While broad national goals should not be lost sight of, action has necessarily to be taken at the micro level and, therefore, plans of action should be worked out at the local level keeping in view local needs and available resources, so that education does not remain a barren channel, leading to nowhere, and there is no mismatch between demand and supply.

This brings to the fore the urgency of the establishment of District Govts. and Panchayati Raj at the District/Village level a la County Governments in the USA and UK, so that the local bureaucracy functions under the supervision and guidance of the local leadership and a system of checks and balances is established. In order that the local leadership remains accountable to the People, who are, in the ultimate analysis, the sovereign authority and also the consumers of the educational system, it is essential that periodical elections to the Panchayati Raj bodies should take place at stipulated intervals. It could, then, be left to District/Village Govts., hopefully, to look after the educational complexes, as adumbrated by the Ramamurti Committee and, sure enough, in this process, the Universities have to play a significant role by providing exemplary leadership and extension services, so that the high school system receives constant and continuous nourishment from senior academicians and experts.

The UGC is keen to grant autonomous status to as many colleges as possible, but inertia and diffidence have stood in the way of the colleges/teachers to grasp the opportunity. It is time that they seized the reins of the system boldly in their own hands, and stopped grumbling any more about lack of authority. An enlightened and humane society can be built only on the foundation of participatory self-government, based on liberal, democratic and vibrant institutions.

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## Dispute Settlement Machinery in Universities and Colleges

This has reference to the paper "A Model for the Dispute Settlement Machinery in Universities and Colleges" by Prof. S.K. Agrawala, published in the 17 June, 1991 issue of *University News*. I wish to state, at the outset, that the views expressed by me herein are my own and do not necessarily represent the views of the Law Commission of India as such.

2. Since the 123rd Report of the Law Commission of India is under consideration of the Government, it may not be appropriate for me to say anything more than what was already stated in the Law Commission Report. The article on the subject by Prof. Agrawala provokes debate and enlightened discussion and stimulates thinking on the subject. I must compliment the Professor for presenting a lucid analysis of the subject for consideration of all concerned.

3. Part I of the article contains a painstaking compilation of the machineries of dispute settlement at the grass roots level, as they exist now, in the various universities. The article clearly demonstrates the varying procedures existing in different universities and rightly emphasises the need for uniform procedure for evolving a machinery to settle grievances and disputes at the grass roots level. This is clearly the emphasis laid down by the Law Commission while formulating its recommendations in the 123rd Report.

4. Part II of the article sets out, in my opinion very properly, the major shortcomings of the machinery of dispute settlement at the grass roots level. It reiterates the view generally

shared by all concerned that a forum or body specially established to settle disputes at the grass roots level is the most appropriate answer for settlement of disputes. It also further reiterates that tribunals established at the State and Central levels should be associated with persons with judicial experience so as to inspire confidence between the persons seeking resolution of disputes. The latest trends of constituting administrative tribunals for adjudicating a variety of disputes between the State and the subjects abundantly justify the proposition that the establishment of tribunals for settling disputes arising in centres of higher education will answer the crying need for satisfactory and speedy justice.

5. In part II of the article the view was expressed that the tribunals should be given the power to enforce their decision by conferring power to commit for contempt. This is a larger issue and is the subject matter of enlightened discussion by eminent jurists. The legal profession is greatly exercised that the administrative tribunals should be conferred power to initiate action for contempt of court. The Government is fully conscious of this demand; obviously the matter is under consideration.

6. There is a reference in part II of the article that notwithstanding the ouster of jurisdiction of a civil court by the University Acts, the civil courts are entertaining disputes brought before the courts and there were instances where the civil courts issued even injunctions. If there is a ouster of jurisdiction, it is not clear

how a civil court can entertain matters in this regard. I have no doubt in my mind that if an order is passed by a civil court without conferment of power, the High Court having jurisdiction over the civil court could be moved under Article 226 to quash the order on the ground of want of jurisdiction. If in one case the High Court quashes the order passed by a civil court as without jurisdiction, there could be no recurrence of such occasions. As pointed out in the article, it may be desirable to draw the attention of the High Court to the exercise of jurisdiction by the civil court without authority and seek interference under Article 227.

7. In Part III of the Article, suggestions and recommendations were made regarding the machinery to be set up at the grass roots level. While referring to the recommendations made by the Law Commission in its 123rd Report the learned author expressed dissent in regard to the participatory model of dispute settlement as regards the students as suggested by the Law Commission. According to the learned author the participatory model is not likely to function smoothly under the conditions presently existing in most of the universities in the country. The view was also expressed that such committees, instead of being able to resolve the disputes would become forums for open confrontation between the teacher members and the student members. I am afraid, I am unable to share the above view. In any dispute between the university administration and the students it augurs well if a representative of the student community also participates in the adjudication regarding the dispute. Such participation by a representative of the student community will inspire greater confidence among the students involved in the dispute. There are no grounds to think that the student representatives will act with any bias or will take a confrontationist attitude towards the other members of



the forum. It is gratifying to note that the present day students of Higher Education are demonstrating a high standard of intellect. It should be our endeavour to give opportunities in different directions to the students so that, when they leave the temples of learning, they can start life not only with academic accomplishments but also with rich experience in matters connected with enlightened human behaviour. It may also be borne in mind that other eminent members of the forum will greatly help the student representative to think in proper terms and bring to bear mature consideration on the subject for resolving the dispute. The student representative will thus be able to promote greater understanding among his own fraternity.

8. Whether the same forum should consider disputes as well as grievances is a matter of convenience. Indeed, the Law Commission has suggested two separate wings to be established in the forum for considering grievances and disputes. Multiplicity of committees should be avoided as far as possible. If, however, the workload is such that the same forum cannot deal with the disputes as well as the grievances, there could be no objection to a separate forum being established for considering the disputes relating to teachers and employees of universities and its colleges.

9. The article suggests that a tribunal of arbitration should be constituted as and when a complaint is received by the authorities against decision of the university governing body. I am not too certain in my mind whether constitution of arbitration tribunal in respect of each complaint would be conducive to general efficiency. The article further suggests that if the person does not want to take recourse to arbitration, disputes should be referred to a one-man tribunal consisting of a person of the level of District Judge. The anxiety

is that a multiplicity of bodies to consider disputes should be avoided. Constitution of a forum on a permanent basis to resolve the various disputes would provide greater consistency and expedite the process of determination. In my opinion, the recommendation of the Law Commission in its 123rd Report ( vide para 7.3 and 7.4 in Chapter VII)) for setting up a "grievance handling forum" with separate wings to deal with grievances and disputes at the grass root level should prove to be adequate and satisfactory at the initial start. After examining the performance of such a forum, further refinements, if called for, could be considered. All the same, the suggestions for changes in the machinery at the grass root level may provoke useful discussion. There could be little doubt that the views expressed will be duly considered by the Government while considering the proposals and recommendations of the Law Commission.

10. In paragraph 9 of part III of the article there is a suggestion that a Legal Advisory Committee should be constituted to provide necessary legal opinion in respect of matters referred to it by any committee dealing with disputes/grievances. It was further suggested that such a legal Advisory Committee should consist of a retired High Court Judge, Dean, Faculty of Law of the University, and a member of the government body being an advocate or a person with legal qualifications and experience. While the suggestion is attractive, I am inclined to think that no useful purpose will be served by constituting such a high power committee since its opinion may or may not be accepted by the body while resolving disputes or dealing with the grievances. Such a committee, in my opinion, will be more ornamental than serving any real purpose.

11. I find there is broad agreement with the proposals made by the Law Commission regarding constitution of tribunals at the State and Central levels vide part IV of the article. I do not think it is necessary to prescribe any age limit for persons constituting the tribunals at the State and Central Level. If one is anxious to have on the high power tribunals persons from judiciary and education with rich experience, there is no need to put forward a restriction based on age. It would be desirable to allow the best talent irrespective of age to man the high power tribunals at the State and the Centre.

12. There is a suggestion in the article that the central tribunal should also be conferred advisory jurisdiction. There could be no objection to the conferment of such jurisdiction. It would be sad, however, if the opinion rendered by the Central Tribunal in the exercise of advisory jurisdiction is not binding and is likely to be discarded by the body seeking such advice.

13. I have no comments to offer in regard to the other aspects dealt with in the article. I must say that the article contains a detailed and useful discussion of the various issues arising for consideration, particularly in the context of the 123rd Report of the Law Commission of India. I hope, the various suggestions made in the article under consideration would be discussed and debated upon by eminent educationists and authorities dealing with higher education. The final outcome of the suggestions will undoubtedly be considered by the Government while considering the recommendations of the Law Commission in its 123rd Report.

Y. V. Anjaneyulu, Justice  
Member,  
Law Commission of India



# AIU Library & Documentation Services

One of the important functions of the Association of Indian Universities is to act as clearing house of information on higher education in the country. Towards this end the AIU Library is engaged in collection building and developing instruments for the dissemination of research information. Over the years a valuable collection of books and documents on different aspects of higher education has been acquired.

The Library has also developed Bibliography of Doctoral Dissertation as an effective tool in the dissemination of research information. Retrospective bibliographies covering the period 1857-1970 and 1970-75 were the first to appear. Effective 1975, however, the bibliography is issued annually in two volumes. One volume deals with Natural and Applied Sciences while the other records doctoral degrees awarded in Social Sciences and the Humanities. In addition to the normal bibliographical details like the name of the Research Scholar, the title of the thesis, years of registration for and award of the degree, and the name of the University accepting the thesis for award of a doctoral degree, the bibliography also gives name and complete address of the supervising teacher and an availability note that seeks to inform whether a copy of the dissertation is available for consultation and use in the University Library/Department or Registrar's Office.

The columns 'Theses of the Month' and 'Research in Progress' are intended to cut out the time lag between the receipt of information and its inclusion in bibliography. Such Universities as are not sending us regular information in respect of Doctoral Theses accepted and research scholars enrolled are welcome to make use of these columns.

The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday.

## CURRENT DOCUMENTATION IN EDUCATION

A list of select articles culled from periodicals received in AIU Library during July 1991

### EDUCATIONAL PHILOSOPHY

Coldicutt, Susan and Williamson, Terry J. Looking down the wrong end of the telescope. *Knowledge* 12(2), 1990, 124-40.

Rich, Robert F. Knowledge creation, diffusion, and utilization : Perspectives of the founding editor of 'Knowledge'. *Knowledge* 12(3), 1991, 319-37.

### EDUCATIONAL PSYCHOLOGY

Lundy, Jane. Cognitive learning from games : Student approaches to business games. *Studies in Hr Edn* 16(2), 1991, 179-88.

Markova, Aelita Kapitovna. Strategy for forming learning motivation. *Prospects* 20(3), 1990, 277-88.

Ogawa, Rodney T. Enchantment, disenchantment, and accommodation : How a faculty made sense of the succession of its principal. *Ednl Admn Q* 27(1), 1991, 30-60.

Schwebel, Milton and others. Social role in promoting cognitive growth over the life-span. *Prospects* 20(3), 1990, 263-75.

Ulen, Thomas S. Theory of rational choice, its shortcomings, and the implications for public policy decision making. *Knowledge* 12(2), 1990, 170-98.

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Gore, M S. Equaliser of opportunity. *Yojana* 35(11), 1991, 16-7, 20.

Kumar, H. communication is the basis of all human interaction. *Manpower Jr* 24(3), 1988, 47-51.

### EDUCATIONAL PLANNING

Arora, S C. Distribution of stock of graduates and above by age-groups upto 2001. *Manpower Jr* 24(4), 1989, 31-57.

Dasgupta, A K. Employment and manpower planning in India. *Manpower Jr* 24(3), 1988, 1-33.

Jagan Mohan, G. Does NPE need review? *Progress of Edn* 65(10-11), 1991, 242-7, 41.

Mathur, Gautam. Human resource policy for full development. *Manpower Jr* 24(2), 1988, 1-29.

### WOMEN'S STUDIES

Saxena, Pradeep Kumar. Impact of educational development on employment of women : The Indian experience. *Manpower Jr* 24(1), 1988, 31-53.

### EDUCATIONAL ADMINISTRATION

Cahill, Anthony G and others. Utilization of information systems technology and its impact on organizational decision making : The case of state budgeting offices. *Knowledge* 12(1), 1990, 53-79.

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Imber, Michael and Thompson, Gary. Developing a typology of litigation in education and determining the frequency of each category. *Ednl Admn Q* 27(2), 1991, 225-44.

Maddock, Trevor. Role of authority and reason in education and educational administration. *Ednl Admn Q* 27(1), 1991, 90-102.

Prestine, Nona A and LeGrand Barbara F. Cognitive learning theory and the preparation of educational administrators : implications for practice and policy. *Ednl Admn Q* 27(1), 1990, 61-89.

Starratt, Robert J. Building an ethical school : A theory for practice in educational leadership. *Ednl Admn Q* 27(2), 1991, 185-202.

#### TEACHERS & TEACHING

Schremer, Oded E. Teacher - A category in curriculum evaluation. *Studies in Ednl Eva* 17(1), 1991, 23-9.

#### EDUCATIONAL RESEARCH

Ramsden, Paul. Performance indicator of teaching quality in higher education : The course experience questionnaire. *Studies in Hr Edn* 16(2), 1991, 129-50.

#### EDUCATIONAL TECHNOLOGY

Scott, Trevor A. Audio-visual aids in higher scientific education -25 years on. *Studies in Hr Edn* 16(2), 1991, 225-7.

#### EDUCATIONAL EVALUATION

Akpe, C S and Afemikhe, O A. School self evaluation : An examination of the state of the art in Nigeria. *Studies in Ednl Eva* 17(1), 1991, 117-27.

Baxter, Paul E. TEVAL experience, 1983-88 : The impact of a student evaluation of teaching scheme on university teachers. *Studies in Hr Edn* 16(2), 1991, 151-78.

Dockrell, Bryan. Effects of system wide testing : Issues raised by a case study in a developing country. *Studies in Ednl Eva* 17(1), 1991, 41-9.

Israeli, Rachel and Mannheim, Bilha. Effectiveness in an institution of higher education : A multi-dimensional model and its empirical examination. *Studies in Ednl Eva* 17(1), 1991, 67-98.

Johnston, R J. Graduate evaluation of British higher education courses : An exploration. *Studies in Hr Edn* 16(2), 1991, 209-24.

Ozcelik, Durmus Ali and Berberoglu, Giray. Contributions of the

rasch model to objectivity in measurement. *Studies in Ednl Eva* 17(1), 1991, 167-88.

Rajamouli, C and Pushpa Ramakrishna C. Pursuit of equality : Evaluating an eligibility test. *Progress of Edn* 65(10-11). 1991, 237-41.

#### ECONOMICS OF EDUCATION

Bird, Kelly B. Comparative appraisal of the investment in tertiary education by students in New Zealand adjusted for the opportunity cost of time. *Studies in Hr Edn* 16(2), 1991, 189-97.

Dougherty, Christopher R S and Jimenez, Emmanuel. Specification of earnings functions: Tests and implications. *Economics of Edn Review* 10(2), 1991, 85-98.

#### VOCATIONAL EDUCATION

Venkateswarlu, N. Vocationalisation of education: An introspection. *Yojana* 35(11), 1991, 18-20.

#### ADULT EDUCATION

Geo-Jaja, Macleans A. Non-formal education: An invaluable solution for graduate unemployment in Nigeria. *Manpower Jr* 24(2), 1988, 31-53.

Parajuli, Pramod. Politics of knowledge, models of development and literacy. *Prospects* 20(3), 1990, 289-98.

Shah, S Y. Mass literacy campaign: Lessons of Ernakulam model. *Yojana* 35(11), 1991, 8-13.

#### DISTANCE EDUCATION

Kirkwood, Adrian and Kirkup, Gill. Access to computing for home-based students. *Studies in Hr Edn* 16(2), 1991, 199-208.

#### COMPARATIVE EDUCATION & COUNTRY STUDIES

Kember, David and Gow, Lyn. Challenge to the anecdotal stereotype of the Asian student. *Studies in Hr Edn* 16(2), 1991, 117-28.

Razel, Carol. Evaluation of a measurement-and-feedback-driven instruction system in Israel. *Studies in Ednl Eva* 17(1), 1991, 51-65.

#### BIOGRAPHICAL PROFILE

Atanassov, Zhecho. Peter Noikov (1868-1921). *Prospects* 20(3), 1990, 395-404.

## THESES OF THE MONTH

### A list of Doctoral Theses accepted by Indian Universities

#### BIOLOGICAL SCIENCES

##### Environmental Sciences

1. Kurain, Pius. *Studies on characterisation and complexation properties of humic acids from soils and sediments.* JNU. Dr D K Banerjee, Department of Environmental Sciences, Jawaharlal Nehru University, New Delhi.

2. Mukesh Kumar. *Recycling of sewage and fly ash on land.* JNU. Dr A K Bhattacharya, Department of Environmental Sciences,

Jawaharlal Nehru University, New Delhi.

##### Biology

1. Attar Singh. *Genetic and biochemical characterization of histidine requiring mutants of Rhizobium trifolii.* HAU.

2. Chauhan, Vikash Singh. *Ecophysiological studies on the interaction among bloom forming cyanobacteria of local water bodies.* Durgawati. Dr S N Bagchi, Department of Bio-Science, Rani Durgawati Vishwavidyalaya, Jabalpur.



3. Mathew, Joselet. **Population biology and ecology of Artemia from Salinas of South East Coast of India.** CUST. Dr S Kulasekhara Pandian, Scientist SG, CIBA, Central Marine Fisheries Research Institute, Narakkal.

4. Mishra, Ranjit Kishore. **Lipid protein interaction in thylakoid membranes of wheat under heat and high irradiance stress.** JNU. Prof G S Singhal, Department of Life Sciences, Jawaharlal Nehru University, New Delhi.

5. Muraleedharan Nair, S. **Studies on the nutrient chemistry of mudbanks.** CUST. Late Prof P N Krishnan Nambisan.

6. Prasanna Kumar, K. **Initiation of transcription in Escherichia coli: Effect of inhibitors.** JNU. Dr Dipankar Chatterji.

7. Ratish Menon, N R. **Isolation and culture of some phytoplankton and its use as food in aquaculture.** Karnatak. Dr (Smt) Kusuma Neelakantan, Reader, Department of Postgraduate Studies in Marine Biology, Karnatak University, Kodibag-Karwar.

#### Biochemistry

1. Alamelu Bai, S. **Development of stable liposomes as carriers for controlled drug delivery.** Madras.

2. Anand, Vani Raj. **Early iron deficiency and rat brain biochemistry.** BHU. Dr (Mrs) V Taneja, Department of Biochemistry, Banaras Hindu University, Varanasi.

3. Mittal, Renu. **Influence of NaCl salinity on behaviour of certain nucleases, oxidases and phosphatases during germination and early seedling stages of rice.** BHU. Prof R S Dube, Department of Biochemistry, Banaras Hindu University, Varanasi.

4. Nandi, Anuradha. **Studies on some aspects of ascorbic acid function and metabolism.** Calcutta.

5. Ray, Giti. **Systematic studies on the pollution monitoring in Calcutta and its neighbourhood areas, in relation to several inorganic and organic pollutants.** Calcutta.

6. Ray, Satyajit. **Studies of mercury and organomercurial resistance in nitrogen fixing soil bacteria.** Calcutta.

#### Microbiology

1. Datta, Phalguni. **Microbiological and clinical studies on shigellosis in Calcutta, India.** Calcutta.

2. Madhavi, B. **Studies on effect of certain insecticides on symbiotic plasmids and nitrogen fixation in rhizobium-legume system.** Osmania.

#### Botany

1. Baruah, Gayatri. **Microbial response to nitrogenous fertilizers and pesticides with reference to nitrogen transformations in tea soils.** Gauhati. Dr B Bezbaruah, Scientist, Regional Research Laboratory, Jorhat and Dr L C Kagti, Prof (Retd), Department of Botany, Gauhati University, Guwahati.

2. Bashir, Md Abul. **Ecopathological studies on Fusarium oxysporum f.sp. ciceri causing wilt disease of chickpea.** BHU. Prof B Rai, Department of Botany, Banaras Hindu University, Varanasi.

3. Bhattacharyya, Mukti. **Studies on cultivation, physiological and biochemical aspects of an edible mushroom of West Bengal.** Calcutta.

4. Bora, Nilamoni. **A comparative study of the morphological and phytochemical characters of certain species of Fabaceae (Papilionaceae) in relation to their taxonomy.** Gauhati. Dr Sudhangshu Chowdhury, Reader, Department of Botany, Gauhati

University, Guwahati.

5. Chattopadhyay, Banhisikha. **Studies of beta-amylase production by Emericella nidulans (Eidam) Vuill.** Calcutta.

6. Dwivedi, Madhubala. **Studies on certain nitrogen-fixing cyanobacteria with special reference to ammonia production.** BHU. Dr L C Rai, Department of Botany, Banaras Hindu University, Varanasi.

7. Gandhi, Aruna. **Study on phytosociology, productivity and mineral contents of grazing land ecosystem at Jhansi.** Bundelkhand. Dr S R Gupta, Bipin Bihari College, Jhansi.

8. Ghosh, Asitranjan. **Microbiological studies on acute diarrhoea in infants aged below 6 months with particular reference to Escherichia coli.** Calcutta.

9. Gupta, Sudershan Kumar. **Biosystematic analysis of the Himalayan species of genus Torilis.** Jammu. Dr A K Koul, Department of Bio-Sciences, University of Jammu, Jammu and Dr Irshad Ahmed.

10. Jha, Chandra Shekhar. **Landuse and vegetation analysis of a dry tropical forest region.** BHU. Prof J S Singh, Department of Botany, Banaras Hindu University, Varanasi.

11. Jha, Prakash Chandra. **Study of plants in relation to fly-ash pollution.** BHU. Prof D N Rao.

12. Kandya, Savita. **Studies on the biochemical basis of seed dormancy in some forest tree species used in social forestry programmes.** HS Gour. Dr A K Kandya, Department of Botany, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

13. Mahipal Singh. **The effects of P (phosphorus) and S (sulphur) on nutrient utilization and chemical composition of lentil.** Jiwaji. Dr D V S Chauhan, Prof and Head, Department of Agronomy, College of Agriculture, Gwalior.

14. Majumdar, Manasranjan. **Aerobiology of Cooch-Bihar District, West Bengal.** Calcutta.

15. Manoharan, C. **Effluent-cyanobacterial interaction: A case study.** Bharathidasan. Dr G Subramanian, Reader, Department of Botany, Bharathidasan University, Trichy.

16. Pai, Vinod. **Reproductive biology and tissue culture of Hibiscus and its hybrids.** Bangalore. Dr B H M Nijalingappa, Department of Botany, Bangalore University, Bangalore and Dr D H Tejavathi, Department of Botany, Bangalore University, Bangalore.

17. Panda, Minakshi Mani. **Plastid biogenesis in Cuscuta reflexa Roxb.** Sambalpur. Dr N K Choudhury, Reader, Department of Life Science, Sambalpur University, Jyoti Vihar, Burla.

18. Pandey, Chandra Bhushan. **Species composition, plant biomass and net productivity of savanna in a tropical dry forest area.** BHU. Dr J S Singh, Department of Botany, Banaras Hindu University, Varanasi.

19. Pandey, M.M. **A study of trichomes and their taxonomic significance in Verbenaceae and Lamiaceae.** Bundelkhand. Dr D P Mishra, Bipin Bihari College, Jhansi.

20. Parihar, Surendra Singh. **Studies on allelopathic potentials of range grasses.** Bundelkhand. Dr K C Kanodiya, Sr Scientist, Indian Grassland and Fodder Research Institute, Jhansi.

21. Saha, Ajay Krishna. **Studies on some aspects of mushrooms of hilly tracts and plains of West Bengal.** Calcutta.

22. Sahu, Sushil Kumar. **Physiology of inflorescence growth and**



development in rice varieties differing in duration of growth. Sambalpur. Dr P K Mohapatra, Prof, Department of Life Science, Sambalpur University, Jyoti Vihar, Burla.

23. Savithramma, N. Studies on calcium associated physiological processes in the developing pods of two groundnut, *Arachis hypogaea* L. cultivars. Venkateswara. Prof P N Swamy, Department of Botany, Sri Venkateswara University College, Tirupati.

24. Saxena, S K. An ecological study of *Anogeissus pendula* with special reference to seed germination and silvicultural treatment. Bundelkand. Dr J P Tripathi, Bipin Bihari College, Jhansi.

25. Singh, Rakesh Kumar. Copper toxicity and uptake in the free and immobilized cyanobacterium. BHU. Dr S P Singh, Department of Botany, Banaras Hindu University, Varanasi.

26. Taunagaria, Pramila. Assimilation and transport of nitrogen in soil-amended with sewage and toxic metals. Vikram. Dr V P Singh, Department of Botany, Vikram University, Ujjain.

27. Tawnenga. Studies on ecological implications of traditional and innovative approaches to shifting cultivation in Mizoram. NEHU. Prof R S Tripathi, Department of Botany, North-Eastern Hill University, Shillong.

28. Veerabhadraiah, Ganji. Pollination ecology of some Euphorbiaceae. Andhra.

#### Agriculture

1. Allauddin Raza. Studies on some physiological aspects of nonsymbiotic nitrogen fixing microorganisms and their effects on crop plants as inoculant. Birsa Agrl.

2. Choudhary, Ram Nath Prasad. Studies on the management of wheat under short and mild winter condition of Patna region. RAU.

3. Grewal, Mohinder Singh. Application of geostatistics to spatial studies on essential and non-essential elements of Haryana soils. HAU.

4. Harvinder Singh. Studies on incompatibility and fruit set in mango, *Mangifera indica* L. PAU.

5. Jagdish Kumar. Taxonomic status of some Himalayan wild fruits. Y S Parmar. Dr C Parmar, Department of Fruit Culture and Orchard Management, College of Horticulture, Nauni (Solan) HP.

6. Md Habibur Rahman. Heterosis and combining ability studies in groundnut, *Arachis hypogaea* L. Birsa Agrl.

7. Mishra, Suresh Kumar. Studies on wilt complex in brinjal. OUAT. Dr R P Naik, A D R, N A R P, Bhubaneswar.

8. Ram Dia. Influence of some soil properties on the transformations of heavy metals in soils. HAU.

9. Rana, Jogender Singh. Studies on the screening of promising genotypes of *Lipaphis erysimi* (Kalt) and the effect of N and P fertilization on its development. HAU.

10. Saravanan, A. <sup>15</sup>N studies on nitrogen use efficiency and balance in rice-soil system. TNGDN Agrl.

11. Singh, Jai Deep. Weed control in rice-based cropping system under dryland conditions. BHU. Prof Mahatim Singh.

12. Singh, Jitendra Pratap. Studies on sulphur nutrition of potato in alluvial soil. BHU. Prof O P Srivastava, Department of Soil Science and Agricultural Chemistry, Institute of Technology, Banaras Hindu University, Varanasi.

13. Srivastava, Prabhat Kumar. Studies on root knot nematode,

*Meloidogyne incognita* associated with chickpea, *Cicer arietinum* L. BHU. Dr H K Singh, Department of Agronomy, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi.

14. Subramanian, A. Bioecology and management of rice leaf-folders, *Cnaphalocrocis medinalis* Guenee and *Marasmia patnalis* Bradley (Pyrallidae: Lepidoptera). TNGDN Agrl.

15. Surendra Prasad. Genetic architecture of yield in wheat, *Triticum aestivum* L. Birsa Agrl.

16. Verma, Arun Kumar. Line x tester cross analysis technique in relation to breeding for yield in linseed, *Linum usitatissimum* L. Birsa Agrl.

#### Zoology

1. Abdul Riaz, S. Modulations in energy metabolism of brain and liver of rat (wistar strain) during hyperthyroidism. Venkateswara. Dr W Rajendra, Department of Zoology, Sri Venkateswara University College, Tirupati.

2. Anand Prakash. Some ecological and histochemical aspects of certain selected digenetic trematodes of freshwater fishes. BHU. Prof G P Agrawal, Department of Zoology, Banaras Hindu University, Varanasi.

3. Anu Radha, Indla. Myxosporidia of the common striped mullet, *Mugil cephalus* Linn of Visakhapatnam Coast. Andhra.

4. Bandyopadhyay, Syamal. Studies on lysozyme in cancer. Calcutta.

5. Bharali, Lohit Chandra. Effect of nutrition and climate on the comparative yield of muga silk-worm under Assam condition. Gauhati. Dr T C Deka, Prof and Head, Department of Zoology, Gauhati University, Guwahati.

6. Chaudhuri, Supratim. Ecological studies on a sewage fed fish pond. Calcutta.

7. Datta, Snigdha. Studies on the mechanism of control of DNA replication in *Drosophila* polytene chromosomes. Calcutta.

8. Gupta, H C. Use of non-insecticidal approaches in management of pulse beetle, *Callosobruchus chinensis* L in stored pulses. Rajasthan. Dr N P Singh, Department of Zoology, University of Rajasthan, Jaipur.

9. Johny, U P. Ecology and biology of the magpie-robin, *Copsychus saularis* Linnaeus in Southern India. Calicut. Dr D N Mathew, Department of Zoology, University of Calicut, Calicut.

10. Kahrizsangi, Rasoul Salehi. Postembryonic studies on the haemocytes in the lemonbutterfly, *Papilio demoleus* L (Lepidoptera) and effects of some juvenile hormone analogues on them. BHU. Prof K P Srivastava, Department of Zoology, Banaras Hindu University, Varanasi.

11. Kameswara Rao, Pothukuchi Siva. Studies on some aspects of water quality and systematics of foraminifera of Machilipatnam harbour channel, East Coast of India. Andhra.

12. Khaleel Sahib, S. Effect of a selected commercial detergent on larval mosquitoes. Venkateswara. Prof P Venkateswara Rao, Department of Zoology, Sri Venkateswara University College, Tirupati.

13. Khan, Izahar Ahmad. Environmental and hormonal control of hypothalamic monoaminergic activity during the annual reproductive cycle of female *Channa punctatus* Bloch. Dr K P Joy, Department of Zoology, Banaras Hindu University, Varanasi.



14. Malhotra, Indu. Chromosomal studies on some dragonflies of North West-India. Punjabi. Dr Ravinder Pal Kaur Sandhu, Department of Zoology, Punjabi University, Patiala and Dr S S Dhillon, Department of Zoology, Punjabi University, Patiala.

15. Manickam, P. Studies on some aspects of neuroendocrine regulation of gonadotropic activity in female catfish, *Clarias batrachus* L. BHU. Sh K P Joy, Department of Zoology, Banaras Hindu University, Varanasi.

16. Mustak Ahmed. Influence of temperature on the growth of the pestiferous land snail, *Achatina fulica* Bowdich. Calcutta.

17. Neena. Biology of oribatid mites. Calicut. Dr M A Haq, Department of Zoology, University of Calicut, Calicut.

18. Pandey, Jyotsna. Study of biochemical changes in rats under the influence of Depo-medroxy progesterone acetate (DMPA). HS Gour. Dr D K Saraf, Department of Zoology, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

19. Premkumari, Pochamcharla. Studies on the pulmonate gastropod, *Indoplanorbis exustus* Deshayes with reference to parasites and host-parasite relations. Andhra.

20. Rama Krishna Rao, V. Studies on certain aspects of reproductive biology of pearl spot, *Etroplus suratensis* Bloch. Osmania.

21. Roy, Bishnupada. Spectrum of digenetic trematode parasites of edible mammalian hosts in North-East India with some biochemical and ultrastructural studies. NEHU. Dr (Mrs) V Tandon, Department of Zoology, North-Eastern Hill University, Shillong.

22. Sagar, Amrith. In vitro studies and selection for stress tolerance in pigeonpea, *Cajanus cajan* (L) Millsp. Osmania.

23. Sharma, Vinita. Investigation on the effects of iethal and sublethal doses of anticoagulants (brodifacoum warforin) on the behaviour and biology of the Indian desert gerbil, *Meriones hurrianae* Jordon. Rajasthan. Dr (Mrs) Y Saxena, Department of Zoology, University of Rajasthan, Jaipur.

24. Singh, Amita. Profile of some sex steroids in natural and induced conditions during final maturation of oocytes in the freshwater food fish, *Clarias batrachus*. BHU. Prof T P Singh, Department of Zoology, Banaras Hindu University, Varanasi.

25. Srinivasa Rao, Kondra Venkata. Biochemical and trace metal analysis of zooplankton and copepoda fauna off Visakhapatnam coast. Andhra.

26. Tomar, Veena. Melanophore dynamics and endocrines in fish and frog tadpoles with reference to various pollutants. Vikram. Late Dr A K Pandey.

#### Medical Sciences

1. Chaubey, Meena. Effect on levels of blood sugar and related parameters by newly synthesised amidine derivatives. BHU. Dr S N Pandey, Department of Pharmaceutics, Institute of Technology, Banaras Hindu University, Varanasi.

2. Chaudhuri, Arnab. Role of prostate gland on testicular and

adrenocortical activities in albino rats. Calcutta.

3. Ghalib, Mohammed Ahmad. Cytogenetic studies in genetic disorders in human population. Osmania.

4. Hema Prasad, M. Mutagenic evaluation of rubber chemicals in in vivo and in vitro systems. Osmania.

5. Manohar Reddy, G. Mutagenicity of anthelmintic drugs. Osmania.

6. Sharma, Jitendra. Cerebral and extracranial correlates of intracranial forces. IIT, Delhi. Prof S K Guha, Centre for Atmospheric Sciences, Indian Institute of Technology, Delhi, Dr Sneh Anand, Centre for Atmospheric Sciences, Indian Institute of Technology, Delhi and Dr R K Saxena, Centre for Atmospheric Sciences, Indian Institute of Technology, Delhi.

7. Tripathi, Manoj Kumar. Effect of formulation and process variables on the bioequivalency of nalidixic acid tablets. BHU. Dr J K Pandit, Department of Pharmaceutics, Institute of Technology, Banaras Hindu University, Varanasi.

#### Veterinary Science

1. Sharma, Ramesh Kumar. Studies on the life cycle, pathogenesis and treatment of *Sarcocystis capracanis* in goats. J N Krishi.

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as a Principal Scientist or in an equivalent grade. (iv) As in Item No. 1 (iii) above. (v) Specialisation in Horticulture/Plant Breeding/Genetics and experience of research in tuber crops.

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**9. DIRECTOR, INDIAN LAC RESEARCH INSTITUTE, RANCHI. (One Post)** Rs. 4500-7300

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**12. PROJECT COORDINATOR (GROUNDNUT), NATIONAL RESEARCH CENTRE FOR GROUNDNUT, JUNAGARH. (One Post) Rs. 4500-7300**

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**Essential Qualifications:** (i) As in Item No. 3 (i) above. (ii) Good academic record with a doctoral degree in the relevant subject, i.e. preferably in Plant Breeding or allied subjects. (iii) 13 years experience (excluding the period spent in obtaining Ph.D. degree subject to maximum of three years) of research/teaching/extension education, out of which at least three years should be as a Principal Scientist or in an equivalent grade. (iv) As in Item No. 1 (iii) above. (v) Specialisation/ experience in Oilseed research/extension education will be desirable

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**Age :** Below 50 years.

**Essential Qualifications:** (i) An eminent Scientist with published work of high quality actively engaged in research/teaching/extension education in the field of Nematology/Plant Pathology with specialisation in Nematology. (ii) Good academic record with a doctoral degree in the subject of Plant Pathology/Nematology. (iii) As in Item No. 12 (iii) above. (iv) As in Item No. 1 (iii) above. (v) Experience of research coordination/management desirable.

**14. PROJECT COORDINATOR (FLORICULTURE), INDIAN AGRICULTURAL RESEARCH INSTITUTE, NEW DELHI. (One Post) Rs. 4500-7300**

**Age :** Below 50 years.

**Essential Qualifications:** (i) An eminent Scientist in Horticulture with specialisation in Floriculture/Ornamental Horticulture/Landscaping with published work of high quality actively engaged in research/teaching/extension education. (ii) Good academic record with a doctoral degree in the relevant subject. (iii) 13 years experience (excluding the period spent in obtaining Ph.D. degree subject to maximum of three years) of research/teaching/extension education, in floriculture/Ornamental Gardening/Landscaping out of which at least three years should be as a Principal Scientist or in an equivalent grade. (iv) As in Item No. 1 (iii) above. (v) Relative specialisation and relevant experience cognate to the job requirement.

**15. PROJECT COORDINATOR (SUGARCANE), AICRP LIKELY TO BE DESIGNATED AS JOINT DIRECTOR, INDIAN INSTITUTE OF SUGARCANE RESEARCH, LUCKNOW. (COOPERATIVE RESEARCH). (One Post) Rs. 4500-7300**

**Age :** Below 50 years.

**Essential Qualifications :** (i) As in Item No.3 (i) above. (ii) As in Item No. 4 (ii) above. (iii) As in Item No. 12 (iii) above. (iv) As in Item No. 1 (iii) above. (v) Specialisation in and experience of research relating to sugarcane.

**16. PROJECT COORDINATOR (ECONOMIC ORNITHOLOGY) AT A.P. AGRICULTURAL UNIVERSITY, HYDERABAD. (One Post) Rs. 4500-7300**

**Age :** Below 50 years.

**Essential Qualifications:** (i) As in Item No.3 (i) above. (ii) Good academic record with a doctoral degree in Zoology (With experience in Ornithology) (iii) As in Item No. 12 (iii) above. (iv) As in Item No. 1 (iii) above. (v) Experience in management of depredation birds of agricultural importance.

**17. PROJECT COORDINATOR (NATIONAL SEEDS PROJECT), ANDHRA PRADESH AGRICULTURAL UNIVERSITY, HYDERABAD. (One Post) Rs. 4500-7300**

**Age :** Below 50 years.

**Essential Qualifications :** (i) As in Item No. 3 (i) above. (ii) Good academic record with doctorate in Seed Technology/Plant Breeding/Genetics. (iii) As in Item No. 12 (iii) above. (iv) As in Item No. 1 (iii) above. (v) Specialisation and experience in research in the field of Seed Technology and Seed Production.

**18. PROJECT COORDINATOR (SOIL TEST CROP RESPONSE), INDIAN INSTITUTE OF SOIL SCIENCES, BHOPAL. (One Post) Rs. 4500-7300**

**Age :** Below 50 years.

**Essential Qualifications:** (i) As in Item No. 3 (i) above. (ii) Good academic record with a doctoral degree in Soil Science or related discipline. (iii) As in Item No. 12 (iii) above. (iv) As in Item No. 1 (iii) above. (v) Specialisation and experience of research in Soil Chemistry and Soil Fertility.

**19. PRINCIPAL SCIENTIST (AGRICULTURAL STATISTICS), NATIONAL BUREAU OF FISH GENETIC RESOURCES, ALLAHABAD. (One Post) Rs. 4500-7300**

**Age :** Below 50 years.

**Essential Qualifications:** (i) As in Item No.3 (i) above. (ii) Good academic record with a doctoral degree in Animal or Plant Genetics/Statistics with specialisation in population genetics/biometrical genetics and 10 years experience (excluding the period spent in obtaining the Ph.D. degree subject to a maximum of 3 years) in research/teaching/extension education provided that at least three years is as a Senior Scientist or in an equivalent grade. (iii) Evidence of substantial contribution to research and scholarship as evidenced by variety product or technology developed or adopted as result of research; the quality of publication of papers in professional journals of repute; and innovations in teachings/ extension education. (iv) Relative specialisation and relevant experience in population genetics/ biometrical genetics with relevant experience in fisheries.

**20. PRINCIPAL SCIENTIST (HORTICULTURE), INDIAN INSTITUTE OF HORTICULTURAL RESEARCH, BANGALORE. (One Post) Rs. 4500-7300**

**Age :** Below 50 years.

**Essential Qualifications :** (i) An eminent Scientist in Horticulture with published work of high quality and actively engaged in research/teaching/extension education. (ii) Good academic record with a doctoral degree in Horticulture and 10 years experience (excluding the period spent in obtaining the Ph.D. degree subject to a maximum of 3 years) in research/teaching/extension education provided that at least three years is as a Senior Scientist or in an equivalent grade. (iii) Evidence of substantial contribution to research and scholarship in Pomology as evidenced by variety product or technology developed or adopted as result of research; the quality of publication of papers in professional journals of repute; and innovations in teaching/extension education. (iv) The candidate should have experience in fruit breeding/physiology/nutrition/Orchard management.

**21. PRINCIPAL SCIENTIST, N.R.C. ON COLDWATER FISHERIES, HALDWANI (U.P.). (One Post) Rs. 4500-7300**

**Age :** Below 50 years.



**Essential Qualifications :** (i) As in Item No.3 (i) above. (ii) Good academic record with a doctoral degree in zoology/fishery science and 10 years' experience (excluding the period spent in obtaining the Ph.D. degree subject to a maximum of 3 years) in research provided that at least three years as a Senior Scientist or in an equivalent grade. (iii) Evidence of substantial contribution to research as evidenced by technology developed or adopted as result of research; the quality of publication of papers in professional journals of repute in inland fisheries and innovations in teaching/extension education. (iv) Practical experience in coldwater aquaculture especially of trout/schizothoracids.

**22. SENIOR SCIENTIST, INDIAN INSTITUTE OF SOIL SCIENCE, BHOPAL (Four Posts) Rs. 3700-5700**

**Age :** Below 45 years.

**Essential Qualifications :** (i) Doctorate in Soil Chemistry/Soil Fertility/Soil Microbiology with specialisation on macro and micronutrients with good academic record. (ii) At least 5 years experience (excluding the period spent in obtaining the Ph.D. degree subject to a maximum of 3 years) in research/teaching/extension education, provided that at least 3 of these years is as Scientist or a lecturer or in an equivalent grade. (iii) Evidence of substantial contribution to research and scholarship as evidenced by the quality of publication of papers in professional journals of repute/innovations in teaching/extension education. (iv) Relative specialisation and relevant experience cognate to the job requirement.

**23. ENGINEER ELECTRICAL (T-7), IVRI, IZATNAGAR (FOR HSADL CAMPUS, BHOPAL). (One Post) Rs. 3000-4500.**

**Age :** Below 45 years.

**Essential Qualifications :** (i) Three years Diploma/Bachelor's Degree in Electrical Engineering OR equivalent qualifications in Electrical Engineering (In fields, where the duration of Diploma Courses available in the country is only two years, the minimum qualification will be two years Diploma instead of 3 years Diploma). (ii) Five years experience in the field of Electrical Engineering.

**24. INFORMATION SYSTEM OFFICER (T-6), HEADQUARTERS, NEW DELHI. (One Post) Rs. 2200-4000**

**Age :** Below 35 years. Reserved for SC.

**Essential Qualifications :** (i) Bachelor's degree of recognised University with Master's degree (M.Lib.) in Library/Information Science (or) any equivalent Degree or Certificate conferred by any organisation which are approved by the Ministry of Education, Government of India like INSDOC and DRTC. OR Master's degree of a recognised university with Diploma or degree (B.Lib.) in Library/Information Science or any equivalent Certificate if conferred by any organisation which are approved by the Ministry of Education, Government of India. (ii) Five years experience for Diploma holders.

#### IMPORTANT NOTES

- i) Explanation for the purpose of qualifications in respect of Scientific posts at S.No. 1 to 21 above.  
"An ARS Scientist inducted/recruited in a particular discipline shall be deemed to have acquired requisite qualifications in the relevant subject.
- ii) Explanation for the purpose of 'Good Academic Record' as indicated in E.Q  
(i) of Item No.22 above.  
(a) "A candidate holding Ph.D. degree should possess at least a Second Class Master's Degree.", OR (b) A candidate without a Ph.D. Degree should possess a high IIInd class Master's degree; OR (c) "A candidate not possessing Ph.D. Degree but possessing Second class Master's degree should have obtained 1st class in the Bachelor's Degree"
- iii) In respect of posts appearing at S.No. 2,6,9, and 11, the candidature of ICAR Scientists who were holding S.2 and S.3 positions as on 31.12.85 will also be considered on the basis of criteria of old qualifications as applicable to these posts prior

to 1.1.86.

**CLOSING DATE FOR RECEIPT OF APPLICATIONS IN AGRICULTURAL SCIENTISTS RECRUITMENT BOARD OFFICE IS 18th SEPTEMBER 1991.**

(For candidates from abroad and in the Andaman and Nicobar Islands, Lakshadweep, Minicoy and Amindivi Islands, State Union Territories in the North Eastern Region, Ladakh, Division of J&K State, Sikkim, Pungi Sub-division of Chamba, Lahul & Spiti districts of Himachal Pradesh, last date will be 3rd October, 1991).

#### GENERAL INSTRUCTIONS

1. For application forms, please write to the Secretary, AGRICULTURAL SCIENTISTS RECRUITMENT BOARD, KRISHI ANUSANDHAN BHAVAN, PUSA, NEW DELHI-110 0012. Request for forms must specify Advt. No.2/91, Name of the post and Item No. and should be accompanied by a self addressed unstamped envelope (23 x 10 cms. size).
2. Separate application, with separate fee is required for each post.
3. Application forms complete in all respects should reach office of the ASRB together with the application fee of Rs. 8/- (No fee for SC/ST candidates) in the form of crossed Indian Postal Order drawn in favour of the Secretary INDIAN COUNCIL OF AGRICULTURAL RESEARCH by the closing date. Application received after the closing date will not be entertained. IN CASE A CANDIDATE ANTICIPATES DELAY IN FORWARDING OF HIS APPLICATION THROUGH PROPER CHANNEL, HE MUST SEND AN ADVANCE COPY OF THE APPLICATION ALONGWITH THE FEE, WHICH MUST REACH THIS OFFICE ON OR BEFORE THE CLOSING DATE.
4. Candidates abroad may apply in plain paper and send their applications together with an International Postal Order/Bank Draft covering the application fee drawn in favour of the SECRETARY, INDIAN COUNCIL OF AGRICULTURAL RESEARCH, so as to reach the office of the ASRB by the closing date. In countries where regular commercial channels are not available, the candidates can deposit the application fee in local currency with the Indian Missions/Posts abroad, who in turn will issue an R.B.I. draft in favour of SECRETARY, ICAR, NEW DELHI.
5. Only the candidates belonging to SC/ST would be considered against the respective reserved posts. As such, General candidates NEED NOT APPLY against the reserved posts.
6. Crucial date for determining the age limit for candidates for each post will be the closing date for receipt of applications from candidates in India. There will be no maximum age limit for ICAR Employees. Relaxation in age is allowed to SC/ST persons to the extent permissible under the rules.
7. The prescribed Essential Qualifications are minimum and possessing of same does not entitle candidates to be called for interview. Where the number of applicants is large, the Board may restrict the number of candidates for Interview to a reasonable limit on the basis of qualifications and experience higher than the minimum prescribed in the Advt.
8. For all Technical posts and other Non-Scientific positions a screening test may be conducted by the Board, to be followed by an interview.
9. T.A. Contribution will be admissible for those called for Interview as per ICAR Rules.
10. If required, candidates must appear for personal interview.
11. Higher Initial pay may be recommended by the ASRB for specially qualified and experienced candidates for all the posts.

davp 91/268



# INDIAN INSTITUTE OF GEOMAGNETISM

DR. NANABHAI MOOS MARG, COLABA, BOMBAY - 400 005

(An autonomous Institute under Department of Science and Technology, Government of India)

Advt : 2/91

Invites application from Indian Nationals for the following posts

**1. Associate Professor (in Antarctic Studies)**  
1 post

**Scale of Pay :** Rs. 3700-125-4700-150-5000

**Requirements: Essential:** (i) A first class Master's degree in Physics, Geophysics, Mathematics (Applied and Pure), Geology, Electronics or Computer Science with at least 10 years research experience in Geomagnetism and allied fields. Preference will be given to those who have a doctorate degree.

- (ii) Evidence of ability to carry out independent work of high quality, such as an outstanding record of published work which proves that the person is capable of generating new and original ideas.

**Desirable:** Adequate experience of conducting and guiding research in Antarctica studies.

**Age :** 45 years & below

**2. Fellow : 2 Posts**

**Scale of Pay :** Rs. 2200-75-2800-EB-100-4000

**Requirements: Essential:** A first class Master's degree in Physics, Geophysics, Mathematics (Applied and Pure), Geology, Electronics, or Computer Science. Preference will be given to those who have Doctorate degree in geomagnetism or allied field or have 2-3 years' research experience in these fields in a reputed Laboratory/Research Institution/University.

**Desirable:** For one post research experience in paleomagnetic studies and/or magnetic petrology of crustal rocks.

For the other post, research experience in space plasma, atmospheric electrodynamics, plasma physics or simulation studies of plasma processes.

**Age :** 35 years and below.

**3. Fellow (Engineer) : 1 Post**

**Scale of Pay :** Rs. 2200-75-2800-EB-100-4000

**Requirements: Essential :** (i) First or high second class B.Sc. in (Physics, Maths, Geology, Electronics or Computer Science)/(3 years Diploma in Electrical Engineering, Electronics, Instrumentation, Mechanical Engineering or Computer Science).

- (ii) 8 years experience of working in electrical or electromagnetic sounding of earth's interior at a reputed Lab-

oratory/Institute/University.

OR

- (i) First or high second class M.Sc. in (Physics, Geophysics, Geology, Electronics or Computer Science)/(B.E., M.E. or AMIE in Electrical Engineering, Electronics, Instrumentation, Mechanical Engineering or Computer Science).

- (ii) 4 years experience of working in electrical or electromagnetic sounding of earth's interior at a reputed Laboratory/Institute/University.

**Age :** 35 years & below.

**4. Reader/Fellow (In Instrumentation): 1 Post**

**Scale of Pay for Reader :** Rs. 3000-100-3500-125-4500

for Fellow : Rs. 2200-75-2800-EB-100-4000

**Requirements: Essential :** (for Reader) : (i) First or high second class B.Sc. in (Physics, Maths, Geology, Electronics or Computer Science)/(3 years Diploma in Electrical Engineering, Electronics, Instrumentation, Mechanical Engineering or Computer Science).

- (ii) 12 years experience of working with geophysical, electronic, or optical instrumentation at a reputed research Laboratory/Institute/University

OR

- (i) First or high second class M.Sc. in (Physics, Geophysics, Geology, Electronics or Computer Science)/(B.E., M.E. or AMIE in Electrical Engineering, Electronics, Instrumentation, Mechanical Engineering or Computer Science).

- (ii) 8 years experience of working with geophysical, electronic or optical instruments at a reputed research Laboratory/Institute/University.

**Age:** 40 years and below.

**Requirements: Essential :** (for Fellow) : (i) First or high second class B.Sc. in (Physics, Maths, Geology, Electronics or Computer Science)/(3 years Diploma in Electrical Engineering, Electronics, Instrumentation, Mechanical Engineering or Computer Science).

- (ii) 8 years experience of working with geophysical, electronic or optical instruments at a reputed research Laboratory/Institute/University

OR

- (i) First or high second class M.Sc. in (Physics, Geophysics, Geology, Electronics or Computer Science)/(B.E., M.E. or AMIE in Electrical Engineering, Electronics, Instrumentation, Mechanical Engineering or Computer Science).

- (ii) 4 years experience of working with geophysical, electronic or optical instruments at a reputed research Laboratory/Institute/University.

**Age :** 35 years & below

**5. Senior Librarian: 1 Post**

**Scale of Pay :** Rs. 2200-75-2800-EB-100-4000

**Requirement: Essential :** (i) Bachelor in Library Science (preferably with Physics or Maths in B.Sc)

- (ii) 8 years experience of working in Library of a reputed scientific Research Laboratory/Institute/University.

OR

- (i) Master in Library Science (preferably with Physics or Maths in B.Sc.)

- (ii) 4 years experience of working in a Library of a reputed research Laboratory/Institute/University.

**Age :** 35 years and below.

**Note :** 1) Prescribed qualification and age limit can be relaxed by the Selection Committee.

- 2) All posts carry allowances admissible to Central Government Employees.

- 3) Nomenclature of some of the posts are likely to change following reclassification of cadres.

- 4) Only selected candidates will be informed of their results.

- 5) A crossed postal order of Rs.8/- (Rs. 2/- from SC/ST candidates) should accompany application.

- 6) Separate application should be made for each post in case one wants to apply for more than one post.

Prescribed application form can be obtained, by post, from the ADMINISTRATIVE OFFICER, INDIAN INSTITUTE OF GEOMAGNETISM, DR. NANABHAI MOOS MARG, COLABA, BOMBAY 400 005 by sending a self-addressed and stamped (Rs. 1.50) envelope of 10 cm x 25 cm size. Completed applications should be sent in a cover superscribed with the name of the post applied for so as to reach the Administrative Officer within 30 days of the publication of this advertisement.



# Rabindra Bharati University, Calcutta

## Employment Notification No. RB/66/91

Applications are invited for appointment to the following posts :

### 1) TEACHING :

**A. Professor, Centre for Tagore Studies and Research - 1 post**

#### Qualifications : Essential

i) Consistently good academic record with 1st class or 2nd class Honours Degree and 1st class or 2nd class Master's Degree (C in the 7 point scale) in Bengali/English/any other discipline dealing with the creative art of Tagore having an interdisciplinary orientation with enough academic and administrative capabilities to co-ordinate and integrate the on-going researches on Tagore being carried out in different departments of the University.

ii) A Ph.D./D.Litt. Degree or publications of outstanding merit on or related to Tagore's works or its environments.

iii) About 10 years' experience of teaching and guiding research.

#### Desirable :

Experience of :

- Academic Administration.
- Organizing and conducting workshops, seminars etc.
- Framing, directing and guiding project work.
- Editing of books, journals, etc.

**(B) Reader in Education - 1 post**

**(C) Reader in Library & Information Science - 1 post**

**Qualification :** i) Good academic record with a doctoral degree or equivalent published work,

ii) Evidence of being actively engaged in -  
a) research,

b) innovation in teaching methods,

c) production of teaching materials

iii) At least five years' experience of teaching and/or research provided that at least three of these years were as Lecturer or in an equivalent position.

This condition may be relaxed in the case of candidates with outstanding record of teaching/research.

**Explanation:** For determining 'good academic record' the following criteria shall be adopted

i) A candidate holding a Ph.D. degree should possess at least a second class Master's degree; or

ii) A candidate without a Ph.D. degree should possess a high second class Master's degree and second class in the Bachelor's degree ; or

iii) A candidate not possessing Ph.D. degree but possessing second class Master's degree should have obtained first class in the Bachelor's degree.

#### Additional qualifications for the post of Reader in Education :

i) Second class M.A. or M.Sc. degree in a non-laboratory-based subject taught in school with either a B.T/B.Ed. degree or M.A. or M.Sc. degree in Education; or second class M.A. or M.Sc. degree in Education with a B.T./B.Ed. degree.

ii) Research experience in the relevant area at the doctoral level or equivalent published works.

iii) At least five years' teaching experience in the B.Ed. or equivalent/allied course.

iv) Ability of organising and providing leadership for a new department in the University.

#### Additional qualifications for the Reader in Library & Information Science.

i) A B.A./equivalent degree in Library Science followed by at least 55% in the Master's degree in Library & Information Science (M.Lib./MLIS).

ii) At least five years' teaching and/or professional experience in a recognised Institution or Library as a Librarian.

iii) Research experience at the doctoral level or evidence of being actively engaged in research work in Library Science subjects or equivalent published works in INSDOC and/or DRTC.

iv) Ability of organising and providing leadership for a new department in the University.

### 2. ADMINISTRATION

**A. Librarian - 1 post**

#### Qualification (Essential)

i) Uniformly good academic record with a B + Master's degree in Library Science or a B + Master's degree followed by Bachelor's Degree in Library Science;

ii) At least 10 years' experience in working in a senior position like Assistant Librarian in a Library of repute, preferably in a University or in an Institute of higher learning;

iii) Age - not less than 35 years relaxable in case of exceptionally qualified candidates.

#### Desirable

i) A doctoral degree or published research work of merit;

ii) knowledge of foreign language

**B. Development Officer - 1 post**

#### Qualification (Essential)

i) Uniformly good academic record with a B + Master's degree

ii) At least 10 years' experience in a position involving supervision, control and planning of administration of colleges/Universities/Institutes of Higher Learning or Government or Quasi-Government Organisation ;

iii) Age - not below 35 years relaxable in case of exceptionally qualified candidates.

#### Desirable

i) A doctoral degree or published work of high standard ;

ii) Experience of at least 7 years' in University or in post-graduate research organisation as Assistant Registrar or equivalent post. In that case record or performance will be examined.

#### Scale of Pay

i) Professor - Rs. 4,500-150-5,700-200-7,300

ii) Reader - Rs. 3,700-125-4,950-150-5,700

iii) Librarian & Development Officer - Rs.3,700-125-4,950-150-5,700

plus usual allowances and other benefits as per University rules. Higher initial pay may be admissible in deserving cases on the recommendation of the Selection Committee.

Other things remaining equal, preference will be given to the candidates belonging to SC/ST.

Seven copies of applications in prescribed form (available from the Appointment Section of the University at 56A, B.T. Road, Calcutta-50 on any working day between 12 noon and 4 p.m. excepting Saturdays and holidays) together with attested copies of mark-sheets from Matriculation/SF/HS onwards and a non-refundable fee of R.20/- of crossed Indian Postal Order payable to RABINDRA BHARATI must reach the Registrar, at the above address positively by 14 August 1991.

Selection for professorship in Centre for Tagore Studies and Research need not necessarily be confined to those who apply.

**N.B.** (1) Those who have applied in response to the previous advertisements of this University for posts under 1 (B) & (C) need not apply again.

(2) Canvassing in any form will be treated as a dis-qualification.

(3) Incomplete applications are liable to be rejected.

R.C. Mitra  
REGISTRAR

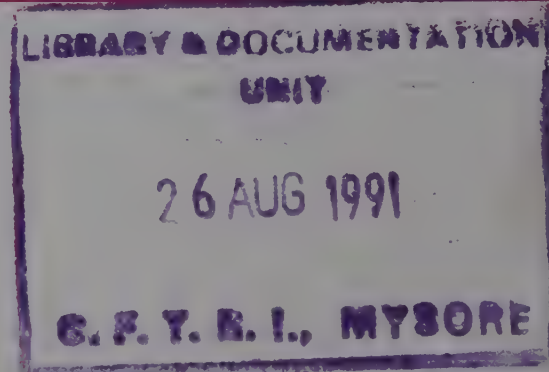


# University News

ISSN-0866-2257

MONDAY, AUGUST 12, 1991

Rs. 2.50



**Yashwantrao Chavan  
Maharashtra Open University**

**Hosts**

**AIU Standing Committee Meeting**

**And**

**West Zone Vice Chancellors Conference**

**At Nashik On**

**August 17-18, 1991**



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# SHASTRI INDO-CANADIAN INSTITUTE

## DEVELOPMENT OF CANADIAN STUDIES IN INDIA

### FELLOWSHIPS FOR INDIAN SCHOLARS IN HUMANITIES AND SOCIAL SCIENCES

FOR THE ACADEMIC YEAR 1992-93

#### Categories of Fellowship

Faculty Enrichment

Faculty Research

Graduate Student (Doctoral Research)

#### Eligibility

##### Faculty Enrichment

Applicants :

1. will normally be full-time, permanent teaching members of the academic staff of a recognized institution of higher education or equivalent degree-granting institute in India. 2. must be proficient in either English or French. In addition, while not mandatory, applicants should provide evidence of their interest in or involvement with Canada prior to the application, if such has been the case. This may be demonstrated by courses already given, research undertaken, extra-mural activities, membership in the Indian Association for Canadian Studies (IACS), etc.

##### Faculty Research

Applicants will normally : 1. be full-time members of the academic staff of a recognized institution of higher education or equivalent degree-granting institute; or scholars at research and policy planning institutes who undertake significant Canadian bilateral relations research projects; professors emeritus may also apply; 2. hold a degree equivalent to a postgraduate qualification; applications will be considered from applicants without these formal qualifications only if successful research experience can be demonstrated; Applicants must be proficient in either English or French. In addition, while not mandatory, applicants should provide evidence of their interest in or involvement with Canada prior to the application, if such has been the case. This may be demonstrated by courses they have already given, research they have undertaken, extra-mural activities, active membership in the Indian Association for Canadian Studies, etc.

##### Graduate Student (Doctoral Research)

Applicants will normally : 1. be a citizen of the country from which they make application; 2. be a postgraduate student in a recognized institution of higher education or equivalent degree-granting institute who will have completed course and course-related doctoral requirements by the time the graduate student research award for which he/she is applying would be granted.

Applicants must be proficient in either English or French.

LAST DATE FOR RECEIPT OF COMPLETED APPLICATIONS IS NOVEMBER 15, 1991.

Please write for further details and application form by sending self addressed Rs. 4/- stamped envelope (5"x10") to :

The Resident Director  
Shastri Indo-Canadian Institute  
5 Bhai Vir Singh Marg  
New Delhi - 110 001

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# UNIVERSITY NEWS

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## IN THIS ISSUE

Towards a Commission for Medical Education	10
Economics of Education in the Third World	12
Quality of Higher Education	17

### Convocation

Indira Gandhi National Open University, New Delhi	21
--	----

### Campus News

Facilities for Research in Materials Technology	25
MSc (Tech) in Marine Geophysics	25
New Paradigms of Development	26
Computer Assisted Language Learning and Teaching	27

### News from UGC

Countrywide Classroom Programme	28
Fellowships and Visitorships in USA	28

### News from Abroad

COL Fellowships Programme	29
Cambridge Scholarships	29

Book Review	30
Research in Progress	33
Theses of the Month	36
Education News Index	39
Advertisements	40

Opinions expressed in the articles  
are those of the contributors and do  
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the Association.

Editor:  
SUTINDER SINGH

# Yashwantrao Chavan Maharashtra Open University

## An Overview

### Introduction

Maharashtra has a long and rich tradition of educational reforms. Mahatma Phule, Rajarshi Shahu Maharaj, Karmaveer Bhaurao Patil, Dr Punjabrao Deshmukh and other great thinkers and reformers have directly and indirectly contributed to educational philosophy and movement. It was therefore appropriate that Maharashtra realized very early that Open Learning is an idea the time of which has come. The University has been justly named after Maharashtra's great political leader and builder of modern Maharashtra, Yashwantrao Chavan. The Yashwantrao Chavan Maharashtra Open University (YCMOU) came into existence in July 1989 through Act XX (1989) of the Maharashtra Legislature, YCMOU is the fifth Open University in India, and the fourth one at the State Level. With its goal of becoming a Mass Varsity, its emphasis on vocational, technical, professional as well as general educational programmes, and its approach towards developing a new Work Culture, the University has set out to create an identity on the national educational scene.

### University Act

The YCMOU Act clearly states the objects and approaches of the University in its first schedule. It will be worthwhile to mention here some of the major objectives.

1. To make higher vocational and technical education available to large sections of the population.
2. To give special attention to the needs of the disadvantaged groups, in particular, people in the rural areas and the women.
3. To relate all courses to the development needs of individuals, institutions and the State.
4. To provide an innovative, flexible and open system of education by using distance teaching methodology and by applying modern communications technologies to education.
5. To provide continuing adult and extension education. Special attention is to be given to retraining adults in new skills to enable them to adjust to a changing technological environment.
6. To provide postgraduate studies and research opportunities in all fields of knowledge, especially in educational technology, distance education and development communications.

### *Main features of the University*

The University act has certain special features which create its distinct identity.

1. The goal of the University is to become a 'Mass Varsity'. Most of the programmes are offered in the regional language (Marathi) though English is used at some levels for courses in Science and Technology.
2. The programmes lay a major emphasis on Vocational/Technical Courses.



3. The University is committed to become Self-sufficient in Operational Costs.

4. The University aims to make use of latest techniques and technologies in its task of imparting education.

5. The University develops linkages so as to become instrumental in the developmental and transformational processes in the society around.

#### *Flexible & Open Structure*

The structure of the University has to be appropriate to the functions generated to fulfil the aims and objectives. Besides, the structures and functions of the Open University should allow efficient and cost effective decision making, quicker implementation and at the same time, be accountable and open to change. It has to be evolved in the light of the experiences of the University and the requirement of the educational programmes. The University Act, therefore, prescribes minimum structure for evolving innovative, non-formal Open University System.

#### *Authorities of the Universities*

The University is governed by the following authorities:

1. Board of Management
2. Academic Council
3. Planning Board
4. Finance Committee

The functions of the Academic Council, at present, are carried out by the Planning Board.

The YCMOU structure is bifocal in nature with the Board of Management as the principal executive body, and the Academic Council as the principal academic body. The Planning Board is the principal planning body and is responsible for monitoring the developments of the University.

#### *Other Bodies*

For developing educational programmes and guiding the schools in various disciplines, Programme Advisory Committees are appointed. The University follows the Course Team approach to develop instructional materials through multi-media use.

#### *Approach to Establishing University*

The University has adopted *industrialized form of educational system* for developing its functions and activities. The structure is so designed as to serve the

functions of educational planning, development, production, delivery, evaluation and reform.

#### *Structure of the University*

The structure of YCMOU is made of Divisions. Each division is headed by a Director or Head. A division consists of Schools, Centres and Sections. Functions of each of these Divisions are given below.

##### *The Academic Division*

The Academic Division systematically judges the needs of the students and society and prepares educational plans to fulfil the needs. It is the function of the Academic Division to develop instructional design and instructional materials in print form, help in developing audio and video materials, and in delivery of the educational programmes.

The Academic Division consists of the following Schools:

1. Humanities and Social Sciences
2. Commerce and Management
3. Education
4. Science and Technology
5. Computer Science
6. Agriculture
7. Continuing Education

##### *Academic Services Division*

This Division offers services for raising overall instructional quality of the University materials. It consists of the following three Centres :

1. Centre for Instructional Technology
2. Research, Development & Evaluation Centre
3. Training Centre

Functions of this division are closely linked with Academic Division, Print Production Centre and Audio Visual Centre. The division considers and improves communicational aspects of print, audio-video and other components of the learning materials by carrying out appropriate transformation and/or editing.

##### *Audio Visual Centre*

It develops educational audio and video tapes which form an integral part of the instructional materials.

##### *Print Production Centre*

The Centre helps in developing manuscript preparing final copies of textual material by using Word



Processing and Desk Top Publishing. It also produces the instructional texts for the use of students.

#### *Student Services Division*

Ensuring that the books and the other materials reach the student and that the student is given adequate individual help through planned contact sessions at the study centres is the responsibility of the Student Services Division. It also provides all the services to the students as well as managers of the Regional Centres. The division consists of:

1. Centre for Regional & Study Centres Management
2. Student Evaluation Resource Centre
3. Student Registration Section
4. Student Examination Section
5. Stores and Dispatch Section

#### *Finance Division*

Finance Division maintains accounts and processes bills for expenditure. It consists of:

1. Finance Section
2. Purchase and Stores Section

#### *Infrastructural Services Division*

The division caters to the requirements of establishment, services and building construction and maintenance. The division has the following sections:

1. Establishment
2. Services
3. Building Construction and Maintenance

#### *Computer Centre*

From the beginning the University has aimed at thorough computerization of its systems. This is especially necessary since an institution of this nature has to create and maintain records of several thousand students over a longer period of time. At present the University has 9 PC/ATs and 27 PC/XTs. A consultancy has given complete design for computerization of all functions of the University. A major part of the book publishing activity is done with the help of computers and desk top publishing packages.

#### *Library and Resource Centre*

#### *Planning and Co-ordination Division*

This division helps in long term planning education programmes and activities of the University. It also

coordinates and monitors development and implementation of the educational programmes. It consists of:

1. Planning, Development and O & M Centre
2. Coordination and Monitoring Section
3. Public Relations Section

#### *Academic Programmes*

From the beginning YCMOU's thrust is on producing and delivering a variety of programmes in different disciplines reaching diverse strata of society. Its general degree programmes provide education to adults who had to stop their education short at the primary or secondary stage. These programmes also cater to the working youngmen who could not continue after the Higher Secondary stage. At a different level there are in-service courses for teachers and on-the-field courses for farmers. YCMOU has also concentrated on Science and Technology courses catering to industry personnel. The question that interests us here is : How to bring in and maintain openness in this system? Let us look at the entry procedures and the modular programme structure of this University to seek an answer to this question.

#### *Entry Procedures*

The YCMOU recognizes that a number of persons who are forced to interrupt their formal education due to circumstances beyond their control, they keep on acquiring learning experiences. The YCMOU entry procedures take into account the value of such experiences. Procedures for credit transfer are getting fixed to value demonstrable learning experience. The specially prepared Preparatory Course trains these people to study systematically with the help of the learning materials. It tells them what they will have to do and how they will have to study.

#### *Modularity*

Modularity basically means reducing the rigidity in the structure of a programme. If the student so desires, he can first complete a short term course, then complete the other courses and a collection of certificates can lead to a diploma. Similarly a collection of courses can also lead to a degree. In other words, a person can keep collecting overall credits as he completes short term needs-oriented courses according to his requirements and such consistent work can earn him a qualification in the end.

#### *Programmes and Courses*

#### *Preparatory Programme*

The preparatory programme is offered to those who



have not passed 12th or equivalent examinations for direct entry to the Degree Programme. It consists of courses in English, Mathematics, Social Science, and Commerce and Accountancy.

When the Preparatory Programme was launched in October 1989 at 15 Study Centres, it had an enrolment of 1223 students. For the second batch of Preparatory Course 6602 students were enrolled at 31 Centres. In the current batch the enrolment is around 6000.

#### *B.A. and B. Com. Degree Programmes*

The YCMOU has the major responsibilities of meeting the common man's aspirations to obtain higher educational qualifications. Since degrees open doors to further opportunities, the YCMOU has been making efforts to enable people living in remote or rural areas to study for a higher degree. In doing so, it is not unmindful of the fact that in many developing countries the degree disease is rampant. To make degree level programmes relevant to current social realities and improve their vocational potential, the YCMOU has established a novel applied degree both in the Humanities and in Commerce.

Every YCMOU programme is characterized by the number of credit points the student must complete. The degree programme consists of 96 credit points distributed over a number of courses. When a student successfully completes a course, he or she obtains those credits.

#### *Programmes in Agriculture*

The YCMOU's main thrust is expected to be on applied and technical courses and it is expected to usher in a new era of needs-oriented vocational education in the Maharashtra State. YCMOU's courses in agriculture attempt to encapsulate the experience of the successful farming practices and make it available to the average farmer and farm labourer.

YCMOU has planned courses in eight representative crops : grapes, mangoes, cotton, groundnut, onion, 'tuvar' pulse, 'kardai' oilseed and sugarcane. Farmers study with the help of specially written print materials, audio-visual aids, two-way communication between individual farmers and agriculture experts, and contact sessions. For contact sessions, the University uses the concept of 'parivaars' a sort of an extended family where people get together to exchange ideas and benefit from each others' experience. The YCMOU has taken the first step to eventually develop an expert system through which difficulties of the individual farmers will be solved with the help of answers provided by the practices adopted by the successful farmers.

The course in grapes for 4 months duration was started during March-June 1990 and 80 farmers have enrolled for it. The initial print materials have been produced and distributed to the students.

The full programme of one year duration on grape growing was launched in February, 1991, in collaboration with the Maharashtra Grape Growers' Association. The other cropwise courses are at the final stage of development.

#### *Programmes in Science and Technology*

##### *— Diploma in Applied Electronics*

The Diploma in Applied Electronics keeps in view the increasing demand for trained electronics engineers, technicians and technical supervisors. Course work consists of 16 credits (560 study hours) worth of theory, 16 credits worth of practical work and 8 credits worth of project work. Study materials have been developed by the best experts available in the field. The instructional package consists of self-study texts, video demonstration tapes, a special manual and an innovative home experiment kit. Students will be able to obtain this kit against a deposit and perform more than 50 experiments at home. Institutions with adequate technical facilities are being identified as study centres. At the study centres, students will obtain individual guidance and perform complex practical tasks under the guidance of counselors.

Following programmes are under preparation

- Diploma in Electronics
- Advanced Certificate in Industrial Electronics, Computer Technology
- Certificate courses in Repair & Maintenance of Radio, T.V., and Electronics Appliances etc.

#### *Programmes in Education*

Recent decades have seen a rapid development of primary and secondary school education in the State of Maharashtra. The National Education Policy envisages continuous training and orientation of teachers as a crucial quality component. This means that even teachers who have had some pre-employment training must continuously upgrade their knowledge and skills. The number of such teachers is very large, with an estimated backlog of 25,000 teachers in Maharashtra alone. The YCMOU has established an In-service Teacher Training Programme in cooperation with the Department of Education, Government of Maharashtra. This programme combines the distance education methodology with innovative face-to-face contact activity.



The University has also developed a curriculum for a bachelor's degree in education (B.Ed.). The curriculum has been approved at the national level and the course was launched at the end of July 1991.

#### *Research/Evaluation Programmes*

A joint research project with All India Radio, New Delhi has been undertaken. This project will test a new technique called Radiotext, by which audio messages can be simultaneously broadcast with text display on the video screen and a hard copy print out of the screen in broadcast mode.

Programme of M.Phil and research is under preparation and will be launched in 1992.

#### *The Educational Network*

The University has to ensure that its programmes reach students located in different parts of the state. YCMOU is not merely an examining body. It takes full responsibility for the entire teaching learning activity. The YCMOU Instructional Package consists of the following components :

1. Instructional texts developed by experts with the assistance of instructional technologists;
2. Audio and Video Programmes developed by the University;
3. Face to face contact sessions organized at the study centres located at the district places; and
4. Instructional kits developed for practical work for technical subjects

#### *Study Centres*

Like some other open universities YCMOU has established study centres through its student Services Division. During the first 2 years of operation, YCMOU has been able to establish 37 study centres throughout the state. In addition to these, 6 centres for the Diploma in Applied Electronics programme and 20 centres for the B Ed programme will soon start functioning. While selecting places for these centres, care was taken that each district in the state has at least one centre. In the immediate future the number is likely to go up to 60. At present there are about 600 counselors helping the students at these study centres.

The study centres of YCMOU mainly serve the following functions.

1. They arrange contact and counseling sessions at regular intervals according to YCMOU norms and patterns,
2. They arrange for viewing and listening sessions for

YCMOU audio and video productions,

3. They hold classroom tests according to the internal assessment patterns,
4. They conduct the summative evaluation according to YCMOU plans,
5. They facilitate delivery of instructional material from YCMOU, and
6. They arrange practicals and demonstration sessions, wherever necessary,

#### *Regional Centres*

The University has decided to establish six Regional Centres at Bombay, Pune, Aurangabad, Nagpur, Amravati and Nashik for offering better services to students, study centres for coordinating and monitoring the activities of the University at the regional level. The Regional Centres will be operational during the next 3-4 months.

#### *Infrastructural Development*

The University began its activities in a rental building. At present the University offices are spread around in three different buildings with a total area of about 18,000 sq. ft.

The University has taken possession of 150 acres of land in the picturesque surroundings of the Gangapur Dam, about 10 kilometres from the centre of the city of Nashik. Plans for the development of the campus in two phases have been finalized.

#### *Staff*

The University started its office in August 1989, with a staff of 19. The State Government has sanctioned 210 posts to be filled in phases as and when University expands its activities. Out of these 65 posts are academic, 56 technical and 89 administrative.

The University has so far selected and appointed 30 Academic, 23 Technical and 82 Administrative members of staff.

#### *Computerization and Mechanization*

In order to increase accuracy, efficiency and speed of operations, the University has adopted a policy of computerization and mechanization of all the University functions. The staff is being trained to use the new equipment. Further, development of computer programmes is going on with the help of the academic staff, programmers, and trainee programmers. As mentioned earlier, at present the University has 9 PC/ATs and 27 PC/XTs. Indigenous software has been developed for various internal operations within the



University. With the electronic publishing unit, a major part of the book publishing activity takes place within the University itself.

### **Maintaining Standards**

As has been often said, open education is an industrialized form of educational process. We have to therefore ensure that a product is made, is delivered and, equally important, comes upto the standard mark of quality. YCMOU has been careful in developing mechanisms for quality assurance from the beginning. It is the YCMOU principle that quality control cannot be tagged somewhere at the end of the production process, but has got to be associated with it from the beginning. Whether it is the production of an instructional text or making of an educational video, it is important to assign checks and cross-checks at certain successive stages. Before YCMOU accepts a programme idea, the following criterion is used to determine its vitality and viability:

1. Will the programme help the students to find employment and better their living standard?
2. Does the programme represent the needs of the larger sections of the people in the State? and
3. Is the course consistent with the YCMOU aims and objects?

The next stage of quality assurance is at the text development stage. Every manuscript developed by an subject expert undergoes two stages of scrutiny. At the Content editing stage the content is analyzed for its correctness, richness, appropriateness and depth. At the Instructional editing stage the script is developed into an instructional format with additions, deletions and modifications. When the text is ready for printing, it is subjected to vetting for which procedures have been developed very recently. In the case of an educational audio and video, approval of its idea and plan and a preview session constitute the vetting procedure.

Unlike some other open universities, YCMOU makes only a limited number of copies of instructional texts and audio-video programmes. Though this means spending a little bit more, it is cost-effective from the point of view of quality assurance. Since only a limited number of copies are made, doors for revision, adaptation and improvisation are always kept open. In the future, YCMOU will be able to attempt improvisations at regular and frequent intervals because of this policy.

### **Developing linkages**

A mass varsity has to cater for a variety of target groups from masses and has to develop linkages of various kinds at all levels. Despite being very young, the University has already established contacts at the state,

national and international levels. Some of these linkages are mentioned below :

At the international level the University is linked with the Commonwealth of Learning (CoL), Vancouver, Canada through participation in seminars and workshops and by deputing a senior faculty member for a training programme being organized by the CoL through IGNOU in Indian sub-continent.

The University is a member of Asian Association of Open Universities, Bangkok, and Association of Indian Universities (AIU). The University is closely linked with the IGNOU and has already adopted and translated some of the programmes of IGNOU in Marathi.

The NABARD and Yashwantrao Chavan Pratisthan, Bombay have provided grants for developing crop-wise courses and audio and video materials for crop-wise courses for farmers.

In the development and implementation of its academic programmes, the YCMOU is extensively relying on the assistance of and contribution by the experts from universities, colleges, institutions and organizations from all over the State. Some of these well-known organizations are : Yashwantrao Chavan Pratisthan, Bombay, Homi Bhabha Centre for Science Education, Bombay, Indian Institute of Technology (IIT) Bombay, Mahratha Chamber of Commerce, Pune, Maharashtra Grape Growers Association, Nashik, Marathwada University and Pune University etc.

The University has also made attempts to develop linkages at a broader mass level.

### **Looking Ahead**

At present there are three major challenges before YCMOU. One is related to its goal of reaching masses and becoming a mass university. YCMOU has taken up the challenging task of serving diverse strata of our society such as women, farmers, industrial workers, teachers, common persons etc. to fulfil the diverse developmental needs of various target groups. The University has to develop, produce and deliver the variety of programmes at various levels. This poses the other two challenges. The second one is to establish non-formal, open and distance education channel for all that will enable a learner to learn while working and linking working with learning. The third task is to use modern techniques and technologies that will make this University accessible to all at mass level as well as individual level. All activities of the University should ultimately be linked with the total socio-economic, cultural and educational development of Maharashtra. This is, no doubt, a big challenge and a great opportunity. We look forward to the collaboration and contribution from all over the Maharashtra from various fields in evolving this new open university.



# STAGES OF WORK

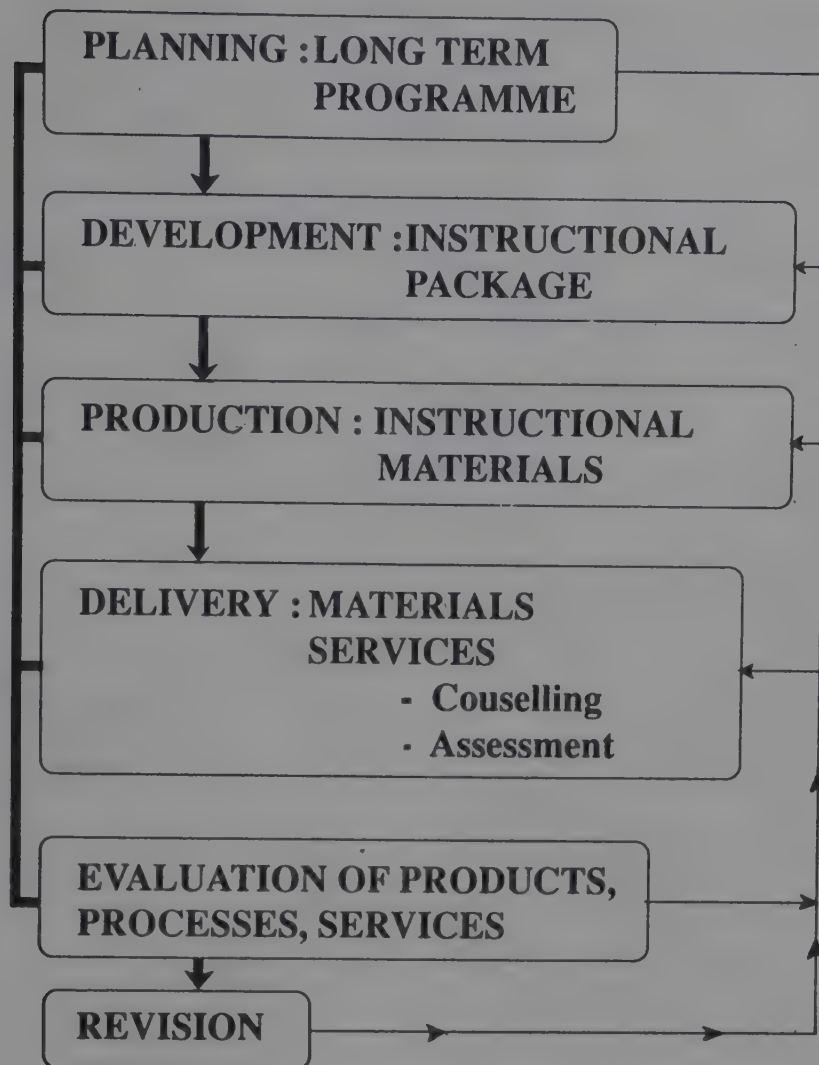


FIGURE 2

## DEVELOPMENT AND PRODUCTION OF EDUCATIONAL PROGRAMME

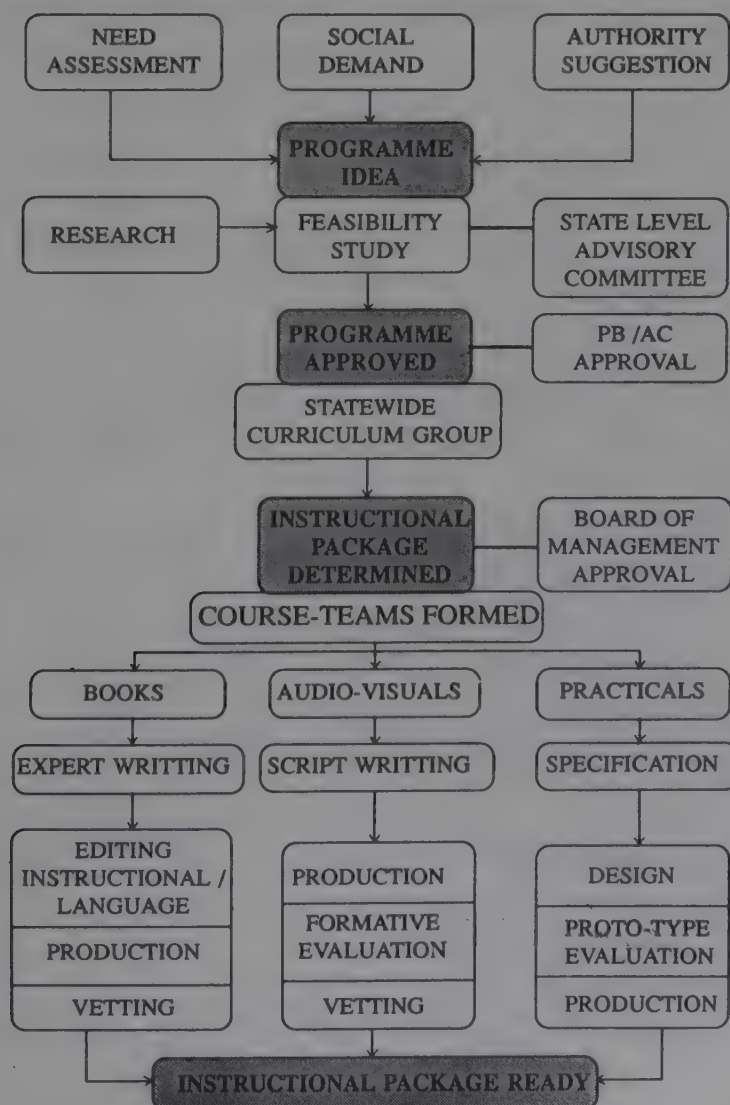




FIGURE 3

## PROGRAMME STRUCTURE : OPEN ACCESS AT ALL LEVELS

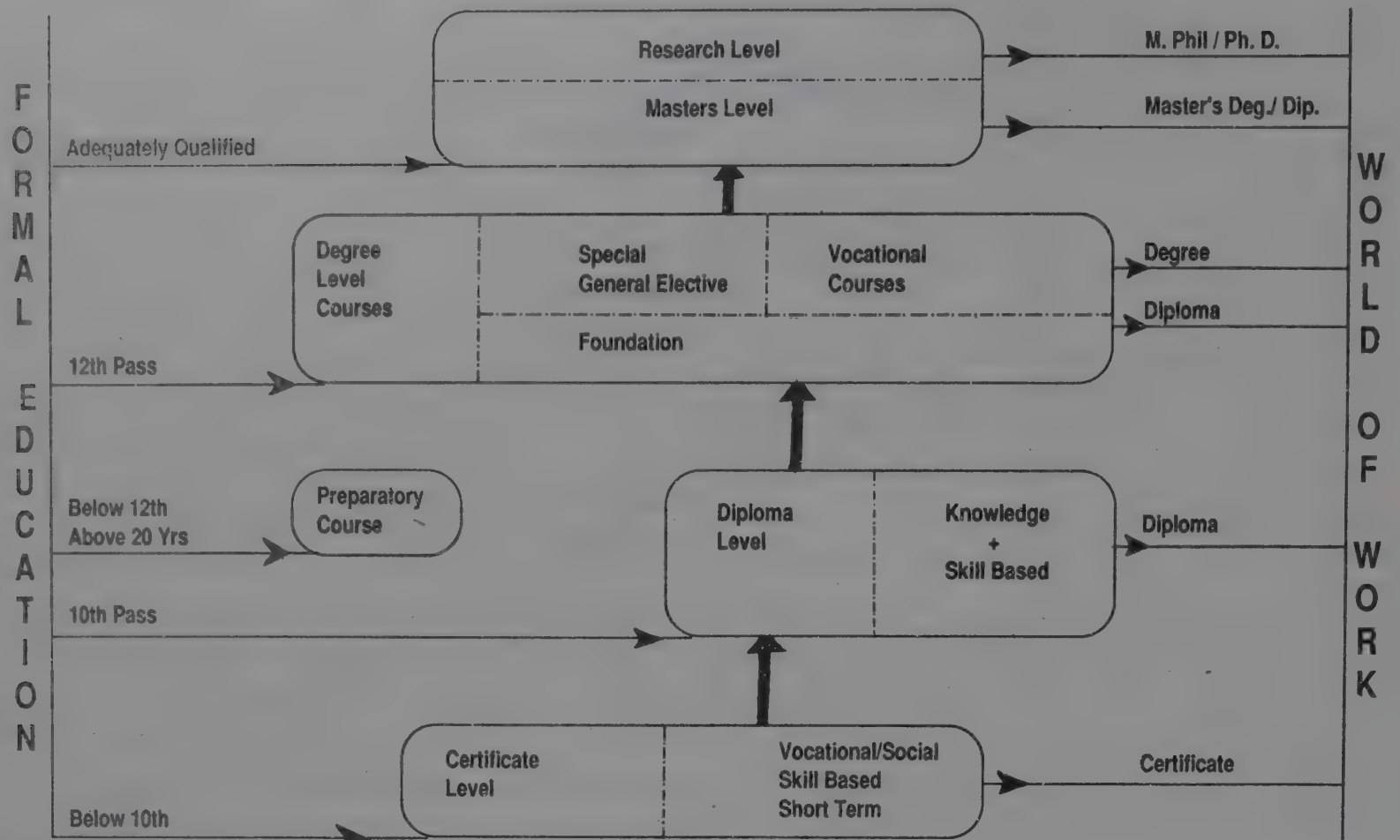


FIGURE 4

### YASHWANTRAO CHAVAN MAHARASHTRA OPEN UNIVERSITY, NASHIK DETAILS OF ACADEMIC PROGRAMMES

Sr. No.	Programme	Eligibility	Entrance Test	Minimum Duration	Date of launching
1.	Preparatory	No formal qualification	No	4 months	1989
2.	B.A. /B.Com.	XII(HSC) or Preparatory Course completed	No	3 years	1989
3.	Diploma in Applied Electronics	H.S.C. with Maths	Yes	1-1/2 year	
		H.S.C. with Electronics/ Computer Sc. OR S.Y. with Physics/Electronics OR Graduate with Physics	No	1-1/2 year	July, 1991
4.	In-service Training for Secondary School Teachers	12 years service as Secondary School Teacher prior to 1-1-86.	No	4 months	March, 1991
5.	Crop-wise programmes in Agriculture	Literate farmers	No	Equal to duration of crop	1990
6.	B.Ed	In service teacher	—	2 years	July, 1991



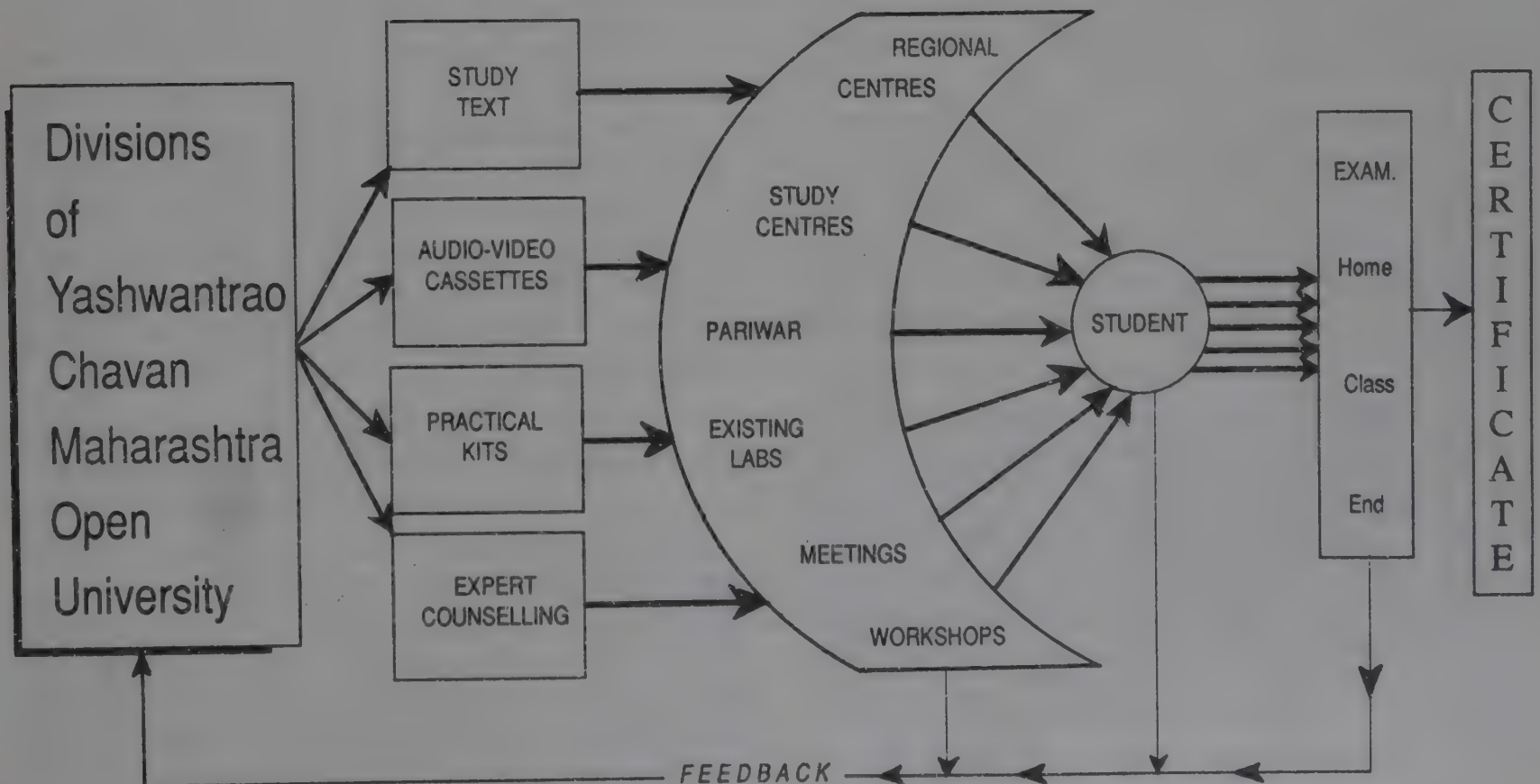
FIGURE 5

**YASHWANTRAO CHAVAN MAHARASHTRA OPEN UNIVERSITY, NASHIK**  
**PROGRAMMES UNDER PREPARATION**  
**(To be launched in 1992-93)**

S.No.	Programme	Eligibility	Min.Duration
1.	Diploma in Electronics	Std. X passed	3 years
2.	Diploma in Industrial Electronics	H.S.C.	3 $\frac{1}{2}$ years
3.	Diploma in Computer Technology	H.S.C.	3 $\frac{1}{2}$ years
4.	Certificate Courses in Continuing Education in Agriculture & Technology	No formal Qualification	Varied(According courses)
5.	Diploma in English language	S.S.C.	1 year
6.	Diploma in Marathi language	No formal qualification	1 year
7.	Diploma in Horticulture	Std. X passed OR Std.X failed + Entrance Test	1 year
8.	Diploma in Library Science	Std. XII	1 year
9.	Diploma in Journalism	Std. XII	6 months
10.	Diploma in Script writing for Radio & T.V.	No formal qualification	1 year

FIGURE 6

**Delivery Approach of YCMOU**





# Towards a Commission for Medical Education

Amrik Singh\*

Is the country likely to have a UGC-type body in respect of medical education? Some remarks made by the new minister for Health at his meeting with the press seem to suggest something of that kind.

The fact of the matter is that such an initiative has been under consideration for a quarter century. The Education Commission (1964-66) talked of it. A decade later, when the Janta Government came to power, Morarji Desai talked of having a separate wing for medical education in the UGC. There was some reference to this matter in the reports of the Medical Education Review Committee (1983) and the Expert Committee on Health Manpower Planning, Production and Management (1986). The idea in other words is not a new one. Whether it gets implemented or not would depend upon the availability of resources but much more would depend upon the kind of leadership that is provided.

Of the various fields of professional education, medical education is perhaps the only important one where the Centre is so far not playing a strong and supportive role. Regulation of standard has been undertaken through the Indian Medical Council (IMC) as also the other Councils dealing with pharmacy, nursing and dental health. All these councils have played a useful role though of late the IMC has been in some trouble. But one thing that none of these bodies has done is to provide funding for medical education.

There are two types of medical colleges. About three fourth of them are controlled by the state governments. They are funded in full directly by the states and the centre does not give them anything except some support in respect of research and that also on a selective basis through the agency of the Indian Council of Medical Research (ICMR).

About one fourth of the medical colleges are privately run and charge high fees. Their quality is uneven. Some of them, maybe like half a dozen or so, are doing reasonably well. But the rest are basically commercial ventures whose objective is not so much to impart medical education as to make money. It is these very people behind the privately run medical colleges who in the 8th

Lok Sabha were able to persuade the government to refer the proposed amendments to the IMC Act to a Joint Select Committee.

The whole idea was to delay things. Even now when the report of the said Committee is available with the government, it would be at least six months, if not longer, before parliamentary time can be found to move to amending Bill. What happens then and whether any strategic changes are made or not is difficult to predict. The commercial lobby by now is so strong that it can derail things quite effectively even further and continue to flourish.

Without going into these details, there are two crucial questions to be raised. One relates to the possible role of the Centre. Is the Centre prepared to take a hand in medical education as is being done for instance in respect of technical and agricultural education? This is one issue to which a positive answer has to be found. So much would depend upon the availability of resources. The economic situation being what it is, it should not be surprising if no definite decision is taken and the matter remains pending for quite some years. After all, it has remained pending for a whole quarter century.

The second issue is related to what may be described as the wider field of health policy. In theory, everyone has been talking of "Health for All by the Year 2000 A.D." and our commitment to the Alma Alta Declaration. But as in the field of college and university education, we have evolved not one but two parallel systems of health service. One is meant for the elite and the other for the common man. Except for Kerala which has broken the social barriers to some extent and developed a health service which is available to everybody, the overall situation is more or less as described above.

If health cover is to be provided to everybody, surely what is happening today would have to be given a different thrust. One cannot go into details except to refer in passing to what the Chinese have done. They are using the traditional system very extensively and what is called the Western system in China is available but not to the exclusion of the traditional system. In our case, while it would be too much to say that the traditional system has been excluded, this much cannot be denied that it has been systematically marginalised.

\*Former Secretary, Association of Indian Universities,  
2/26 Sarva Priya Vihar, New Delhi - 110 016.



A new kind of balance would have to be struck between the two. Even a country like the USSR instructs all its medical graduates in both the allopathic and homeopathic systems. It is left to the doctor to eventually decide which system he would like to follow. In our case the allopathic system is not only given primacy in every way, most decision making in respect of health policies is in the hands of those who have been educated through this system. In consequence, vested interests have grown and it would require a marked degree of assertion by professional and political leadership if the proportions are to be changed.

This issue cannot be pursued too far. But one question which would have to be faced is; were one to be established, what should be the model of organisation for the Medical Education Commission (MEC)? There are a number of models available and it would be necessary to either choose one of them or evolve a new model.

There is the UGC model which was established in the mid 50's. The UGC is responsible both for coordination and determination of standards as also appropriate funding for the fulfilment of these objectives. That the objectives have not been fulfilled even after a quarter century is another matter and need not be gone into here. In theory this was a unique model which had been developed for the first time in any country by India. It is based on the assumption that if the regulating body wishes to lay down something, it should also enable the implementing agency to do those things with the help of additional funding and so on.

The All India Council of Technical Education model (AICTE) is not particularly different from the UGC model except that social pressures in respect of technical education, though acute are not as widespread, and secondly, this body is able to function at least to some extent through its zonal offices. It is too early to say to what extent this model is successful. So far it has encountered various kinds of problems, including blatant misuse of powers by Education Ministers who have been Chairmen of the AICTE. This body was given the statutory status in 1988 and its work would have to be watched for some time before any judgement on it can be pronounced.

The Indian Council of Agricultural Research (ICAR) is more or less a limb of the Ministry of Agriculture. Agricultural universities are run by the states, strictly speaking, but they are given liberal funding by the ICAR. This is not to suggest that funding cannot be more liberal than it is today but it must be conceded that the amount available is so substantial that no agricultural university can disregard what the ICAR wishes to

prescribe.

This body has also an additional advantage. It has a large number of research stations in different states. The state governments are to a large extent dependent upon the goodwill and support of the ICAR for their successful functioning. In consequence the ICAR has had a certain measure of success though, as would be readily recognised, not more than half a dozen of these universities are performing as well as they ought to have.

All this discussion is calculated to show that evolving the right kind of model for the MEC is a matter of some significance. This is not to suggest that a high-powered committee be appointed to go into this question. Such a step would mean postponing the decision for quite some time. What is called for is a brain storming session to which some of the academics as also those who have been connected with the administration of health and a few others might be invited. The whole issue can be thrashed out in a day or so.

Whatever be the final decision, it can then be reviewed by the Cabinet and appropriate decisions taken. Here the Ministry of Health can take a hint from what the Ministry of Education did in the early 50's. While the UGC Act was passed in 1956, the UGC got going under an administrative order at the end of 1953. In other words, even if it takes some time for the legislation to be enacted, it is possible to establish a Medical Education Commission with interim powers and so on.

In this connection, attention might be drawn to something which has been mentioned in passing but not discussed so far. Can the working of the ICMR be reorganised in such a way as to enlarge its functions beyond research so as to include teaching as well? As of today, this body runs a number of research institutions which are directly funded by the ICMR. It funds and supports research in universities, colleges and other institutions and so on. But it has hardly anything to do with the imparting of medical instruction.

There are two opinions advanced in this behalf. One school of opinion is that to mix up research and teaching would weaken research and may not necessarily improve instruction and to that extent would be a loss rather than a gain. The second opinion is that there is an organic link between teaching and research and to separate the two is not the right thing to do.

It is not necessary to take a position in this regard. Let this matter also be referred to the committee envisaged above. One thing may however be recalled here. The ICMR is the successor body of the Indian

*(Contd. on page 16)*



# Economics of Education in the Third World

R. Ramachandran Nair\*

## I

### Early Economists and Education

Economics of education is a vital yet somewhat amorphous component of the economics of development. It emerged as a separate branch of study only in the early 1960's. Even though the modern economists had not given considerable thought to this economic aspect of education until 1960's, the classical economists like Adam Smith and Alfred Marshall had recognised the contribution of education and training in the economic development of a nation. Adam Smith stressed the importance of education in his monumental work, *The wealth of Nations* and he specifically included "the acquired and useful abilities of all the inhabitants or members of society in his concept of fixed capital." "The acquisition of such talents, by the maintenance of the acquirer during his education, study or apprenticeship, always costs a real expense, which is a capital fixed and released, as it were, in his person. Those talents, as they make a part of his fortune, so do they likewise of that of the society to which he belongs."<sup>1</sup> Alfred Marshall, too, recognised the benefits and importance of education when he remarked "But a good education confers great indirect benefits even on the ordinary workman. It stimulates his mental activity, it fosters in him a wise inquisitiveness; it makes him more intelligent, more ready, more trustworthy in his ordinary work; it raises the tone of his life in working hours and out of working hours, it is thus an important means towards the production of material wealth; at the same time that, regarded as an end in itself, it is inferior to none of those which the production of material wealth can be made to subserve".<sup>2</sup> In his view 'the most valuable of all capital is that invested in human beings'.

## II

### Significance of Education in the Production Process

The significance of education in the Third World countries with limited resources but with unlimited desire on the part of their people for economic improvement by means of access to better paid jobs is still greater. "It absorbs the greatest share of recurring ex-

penditures, occupies the greatest number of adults and children (almost 30% of the Third World Population) and carries the greatest psychological burden of development aspirations of those nations".<sup>3</sup> Needless to argue that it is the human resources of a nation, not its material and natural resources that ultimately determine the character and pace of economic development. The ingredients or means of production consist of three items — (1) Natural resources which are inputs which cannot themselves be reproduced; (2) Capital which represents produced means of production; and (3) Human resources representing the most fundamental element in production as no production can take place without human labour — even robots must have been made by men, rightly observed Mrs. Robinson and Eatwell.<sup>4</sup> Human resources constitute the ultimate basis for Wealth of Nations whereas capital and natural resources are passive agents of production. "Human beings are the active agents who accumulate capital, exploit natural resources, build economic and political organisations and carry forward national development,"<sup>5</sup> said the late Professor Frederic Herbison of Princeton University. Clearly a country which is unable to develop the skills and knowledge as well as to promote right aptitudes among its people will not be able to utilize its resources effectively so as to attain the desired goal of development. But from the development point of view of the less developed countries rationalisation of attitudes assumes special significance in any educational system considered as an instrument for development. "In the South Asian Countries which have largely been stagnant for a long time and where attitudes antagonistic to development have taken firm root and become institutionalised, the changing of attitude requires far greater emphasis than in the developed countries where attitudes are already more rational and are adjusted to permit further rapid progress."<sup>6</sup>

## III

### Relevance of Education in the Development of the Third World

Of late, there has been much discussion regarding the relevance of educational expansion in the development of less developed countries. It has been the belief of the educational planners of those countries that

\*Director, Academic Staff College, University of Kerala, Guest House Buildings, Kariavattom - 695 581.



principal institutional mechanism for developing human skills and knowledge and for promoting aptitude and even right attitude is the formal educational system. Quite naturally they have been holding the view that rapid quantitative expansion of educational facilities holds the key to economic development and that the more education the more rapid the economic development. The question is whether this quest for indiscriminate expansion of educational facilities is desirable or not? As it was a politically sacred cow no body dared to challenge it publicly. But the fact remains that it is an economically costly cow too. It has been pointed out by atleast some that despite rapidly expanding educational facilities the plight of the average citizen in many parts of Asia, Africa and Latin America seems little improved. "Absolute poverty is chronic and pervasive, economic disparities between the rich and poor widen with each passing year, unemployment and underemployment have reached staggering proportions with the educated increasingly swelling the ranks of those without jobs."<sup>7</sup> Those opposed to indiscriminate unfettered expansion of education argue that mere quantitative expansion of education will not deliver the goods, rather too much investment in formal schooling at secondary and higher level may divert scarce resources from more directly productive activities and thus be a drag rather than a stimulus to economic development. For instance Dr. K.N. Raj an internationally reputed economist of India has condemned the unprecedented and aimless growth of higher education in this country. "What is above all wrong with higher education in India is that a very large segment of it has ceased to be higher education in any meaningful sense of the term,"<sup>8</sup> observes Dr. Raj.

#### *Claims and Counter Claims made on behalf of Educational Expansion*

On a closer analysis it can be seen that the important claims made on behalf of the expansion of educational facilities were:

- (1) It would accelerate economic growth and thereby levels of living especially of the poor;
- (2) It would generate more employment opportunities;
- (3) It would generate a sense of unity among diverse ethnic or tribal groups; and
- (4) It would encourage modern attitudes.

Contradicting the above arguments it has been pointed out that :

- (1) expansion of schooling cannot always be equated

with spread of learning;

- (2) Higher education need not necessarily be associated with improved ability to undertake productive work. Often it is looked upon as an avenue of escape from manual work;

- (3) Too much investment in education is detrimental to growth as it diverts scarce resources from more directly productive work; and

- (4) Education oriented towards urban sector can greatly distort attitudes and may foster disunity instead of unity among diverse ethnic and social groups.

The logic behind the proposition that educational expansion promoted the overall rate of Gross National Product (GNP) growth is rather straight forward. That an educated labour is a *sine qua non* for sustained economic growth is indisputable for education properly planned can make and has made important contributions in promoting economic growth by :

- (1) Creating more productive labour force endowed with greater knowledge and skills,

- (2) Providing widespread employment and income earning opportunities for teachers and also for workers in industries connected with education such as printing, uniform making etc., and

- (3) Promoting literacy and basic skills.

But as the World Bank's *World Development Report* for the year 1980 rightly pointed out investment in human resources would be ineffectual unless it was supplemented by other productive inputs and policies to ensure that resources were efficiently employed.<sup>9</sup> Further, education would raise levels of living especially of the poor only if the impact of growth trickles down perceptibly and seeps to the sectoral grass roots so that higher levels of economic growth were attended by higher levels of employment and lesser poverty spread. But in the Third World countries unemployment and poverty spread are on the increase as these nations pass through every year.

#### IV

#### **Investment Strategy on the Basis of Demand Supply Analysis and Cost Benefit Analysis<sup>10</sup>**

From the above analysis it is evident that much can be said for and against the quest for expansion of educational facilities. The pressure of public demand for more educational facilities is rampant in the Third World countries. An appropriate investment strategy can be achieved by the government only by braving this challenge of public demand for educational expansion.



For a proper understanding of investment strategy usual demand supply analysis and cost benefit analysis can be made use of. It is the interaction between economically motivated demands and politically motivated supplies that determine the number and composition of educational institutions in a country. As most of these institutions are provided by public authorities the determinants of demand turn out to be more important. Besides, their supply is fixed by the level of Government expenditure which also in turn is determined by the demand for educational facilities.

On the demand side there are two major influences on the amount of schooling desired for.

(1) Private benefits of education, that is the prospect of earning more income by getting access to modern sector employment. They also include indirect benefits, mainly intrinsic non-economic benefits of education.

(2) Private Costs, both direct and indirect. Direct costs are current out of pocket expenses which a student and or his family must bear. Indirect costs are opportunity costs of education. This is in addition to the private costs. At a certain age a child can make a productive contribution to his family income. The family has to forego that income if he continues his education after reaching that age. This is opportunity or indirect cost of education. This concept of opportunity cost is more applicable to the less privileged than to the affluent.

In less developed countries education is not demanded for its intrinsic non-economic benefits. Hence the demand for education in these countries is in reality a derived demand for well paid employment opportunities of the modern sector.

Michael P. Todaro identified four major factors determining private demand for education.<sup>11</sup>

(1) Wage or income differential between jobs in the modern sector and outside it (traditional sector). The demand for education is positively related to this differential.

(2) The probability of success in finding modern sector employment. This probability is inversely related to the current unemployment rate.

(3) The direct private costs of education. Such costs represent a major burden and real financial constraint on demand for education.

(4) The indirect or opportunity costs of education. Evidently the relationship between opportunity cost and demand for education is inverse.

Though there are many other variables most of which are non- economic (e.g. educational background and social status of parents, environmental factors, cultural traditions etc.) certainly have a bearing on the demand for education. The above mentioned four variables give a sufficient insight into the relationship between the demand for education and the supply of employment opportunities.

### *Social vs Private Benefits and Costs*

In analysing social vs private benefits and costs three strands of relationships have to be taken into account. (1) Social cost and private cost; (2) Private returns and private cost; and (3) Social benefits and social costs. By social costs of education we mean the opportunity cost to society as a whole resulting from the need to finance costly educational expansion at higher levels. The social costs of education increase rapidly from primary to secondary and from secondary to tertiary levels whereas private costs increase rather slowly or even negatively. This widening gap between social costs and private costs gives greater stimulus to the demand for higher education than it does for education at lower levels. On the contrary private returns grow at a much faster rate than private costs. Obviously the optimal strategy for a student is to go up as high as possible in the educational ladder.

The social benefits of education rise sharply at first reflecting the role of basic and elementary education in improving productivity of farmers and other workers. Thereafter these benefits increase but at a declining rate. On the other hand social cost curve shows a slow rate of growth for early years but rises sharply thereafter. Hence from society's standpoint investment in elementary education brings greater returns than investment in higher education. It does not mean that higher education may be discarded. It only suggests that too much investment in higher education is not conducive to economic development. A cautioned expansion of educational institutions in the face of mounting pressure for such institutions is the appropriate policy

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## To Our Readers

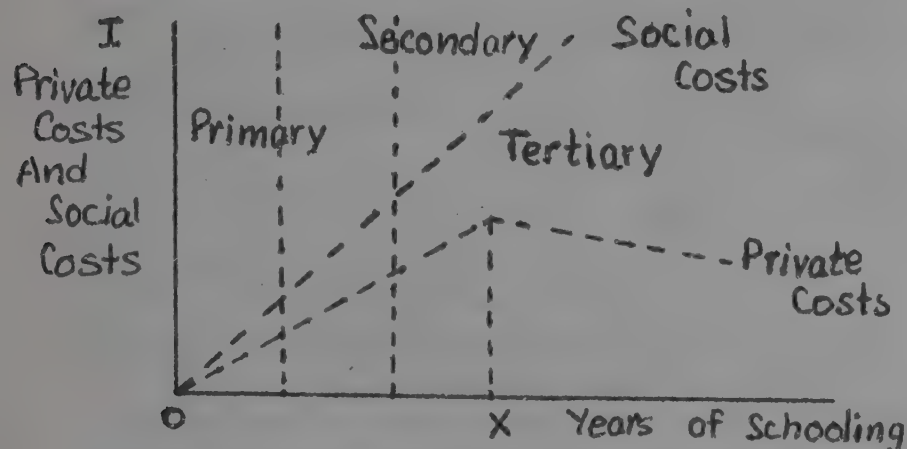
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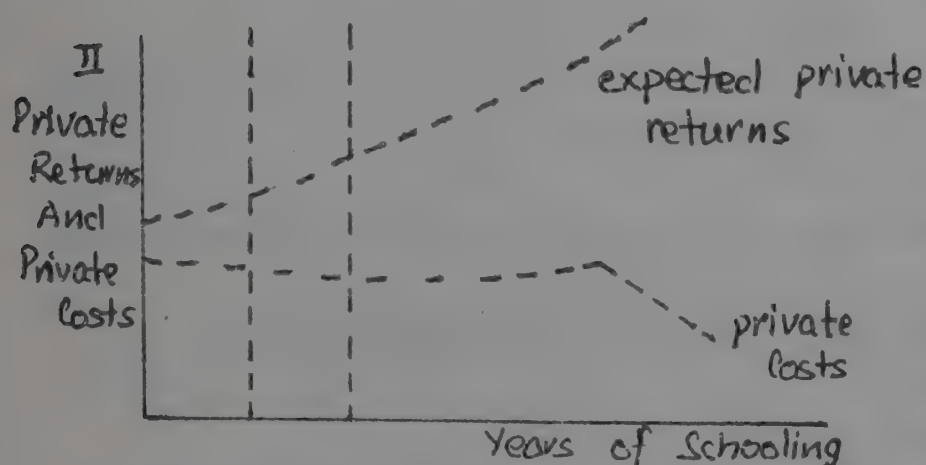


for the Third World.

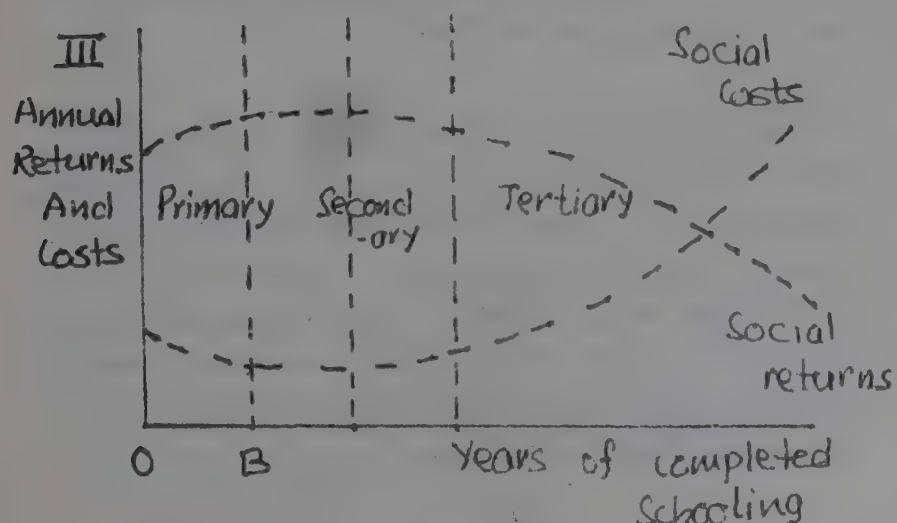
The above relations are plotted in the following figures.<sup>12</sup>



In figure I private and social costs are plotted against years of schooling. Social costs are growing at a faster rate than private costs which at a certain stage (OX in the figure) show a declining trend.



In figure II expected private returns and actual private costs are plotted against years of completed schooling. A student's expected private returns grow at a much faster rate than his private costs. In figure III social returns and social costs are plotted against years of schooling. Social returns curve rises sharply at first but later at a declining rate. On the other hand social cost curve shows slow rate of growth for early years and then a much more rapid growth for higher levels of education. The optimal strategy would be one of providing all students with at least OB years of schooling. More institutions at higher levels shall be established after achieving this minimum.



There has been growing criticism that per pupil cost at various levels is not commensurate with per pupil returns. Instead they are in opposite directions. This imbalance is evident in the following tables :

**Table I - Ratios of Total Costs by Educational level per Student Year**

Groups of Countries	Relative Cost	
	Secondary Primary	Higher Primary
U.S.A., Gr. Brit., Newzealand	6.6	17.6
Malayasia, Ghana, South Korea, Kenya, Uganda, Nigeria, India	11.9	87.9

**Table II - Ratios of Average Annual Earnings of Labour by Educational Level**

Groups of Countries	Relative Earnings	
	Secondary Primary	Higher Primary
U.S.A., Canada, Gr. Brit.	1.4	2.4
Malayasia, Ghana, South Korea, Kenya, Uganda, Nigeria and India	2.4	6.4

Source : Michael P. Todaro, *op. cit.*, pp. 335-337.

From the figures at the lower right corners of the tables it can be understood that a student at the tertiary level costs 87.9 times as much as a primary student costs whereas he earns only 6.4 times as much as a typical primary student. This suggests that too much investment in higher education is unwise.

V

### Inferences

The upshot of the above analysis can be summarised as follows :

(1) There is an ever increasing tendency among the public to demand more educational facilities. But it cannot be justified in terms of optimal resource allocation.

(2) Investment strategy should be one of optimum utilization and use of available resources among various



sectors including education.

(3) There should be a judicious allocation of and use of funds among the various levels of education. In less developed countries too much investment in higher education is at the expense of primary education. It is not desirable from an economic standpoint.

(4) The conflict between optimal private and social investment strategies will continue to exist so long as private and social valuations of investment in education continue to diverge. It is upto the government to face this conflict and evolve the appropriate strategy

(5) Investment in education should be channelled to attain the goals of (a) development of skills and knowledge, scientific, technological and managerial (b) promotion of right aptitudes, and (c) rationalisation of attitudes.

In short, "no independent value attached to education is considered to be valid if it conflicts with the value of education as an instrument for development."<sup>13</sup>

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## Towards a Commission for Medical Education

*(Contd. from page 11)*

Research Association which had been established in 1911. If it could be reorganised soon after the transfer of power, in 1949 to be precise, it should be possible to reorganise it further also.

In case this line of approach is not regarded as unfeasible, it may be added here that the ICMR is due for a change of guard within the next few months. The present Director General is retiring shortly and a new one would have to be appointed by September. A decision in regard to how the MEC is to be organised is therefore urgent. In case it is the ICMR which is reorganised as the MEC, the matter should be decided within the next month or two. If the MEC is to be an altogether new body, the matter can certainly be taken up at leisure, if one may choose to put it that way.

But there is a related question which too has to be taken into account. Should the MEC come to be established, what would be the role of the IMC and the other professional councils in the field of health? This is not

an issue which can be pushed under the rug. It is an issue which has to be faced and faced squarely.

The IMC was the first statutory body (1933) to be established in India. Its main objective was and is to regulate medical education. Till recently, at any rate, its performance has been useful. Of late it has got over-politicised to which no mean contribution was made by a number of Health Ministers during the last couple of decades. Most of them were not above petty politicking and they have, amongst other things, undermined the status and prestige of the IMC.

There is a whole host of issues therefore in regard to health education which need to be discussed and decisions taken. The new Health Minister has referred to only one of them in passing. What has been said above is calculated to show that several issues are deeply interlinked with one another and it is important to adopt a holistic approach not only in respect of health but also in respect of health education.



# Quality of Higher Education

## A Library Perspective

Asha Gadre\*

### I

#### Evolution of National Policy on Education

Pre-Independence education system in India laid the foundations of modern educational system. It was designed to produce trained manpower required for a colonial system of the government to support an industrial society in the U.K. Since independence, however, modernists led by Pt.Nehru advocated rapid industrialisation backed by modernisation of agriculture through the application of science and technology. As such, it was essential to reorient the system of education so as to adjust it to the changing needs and aspirations of the people. Various commissions and committees were appointed since then to suggest changes and remould the education system in view of the social and political changes taking place in the country. These commissions are (1) University Education Commission 1948-49, (2) Secondary Education Commission 1952-53, and (3) Kothari Commission 1964-66.

On the basis of their suggestions the first National Policy on Education was framed in 1968. The National Policy on Education, 1968, dealt with several important aspects of education which had been examined in depth by commissions and committees over a long period. It aimed at promoting national progress, creating a sense of common citizenship and culture and strengthening national integration. It was decided to have a review of the achievements after every five years, which was, unfortunately, not done until 1985.

In 1985, the Government of India found it necessary to review the policy achievements. A status report named 'Challenge of Education - A Policy Perspective' admitted the failure of the previous policy on the whole and asserted a need for a new policy. The status report of Government of India itself agrees that the general formulation incorporated in the 1968 policy did not get concretised into a detailed strategy of implementation accompanied by assignment of specific responsibilities and financial and organisational support. Though the policy has seen considerable quantitative expansion of education all over the country, the tempo and magnitude of qualitative development could not keep pace with the objectives laid down by it.

\**Librarian, KET's V.G. Vaze College, Bombay.*

With this background the New Policy on Education was introduced in April 1986.

- i) The new education policy 1986 was introduced not only to improve upon the previous one and to cut out its shortcomings but to remould the entire system so as to initiate a new momentum. A novel feature of this policy is its recognition of new technology in education viz. Mass Media, Computer etc. Induction of new technology in the library system is presumably assumed in the policy statement. Unfortunately, however, it has not been mentioned explicitly. It is likely, as a result, that the already undernourished library system of this country will be deprived of this "technological shot".
- ii) The policy also emphasizes the acculturating role of education for which it has highlighted the role of media like radio and T.V. While the role of media in popularization and universalization of knowledge cannot be overemphasized, it is important that the limitations of these channels are also realized. Though the public interest could be aroused with the help of these media, unless supplemented by additional information resources centres, this interest is likely to decline. Libraries have to play a decisive role in this regard.
- iii) Policy also asserts the need for examination reforms. It could be known from our prior experiences, that these reforms, in whatever fashion moulded, result in standardisation and rigidity. The most disturbing consequence of this rigidity is the harm it causes to the initiative, spontaneity and originality of the student. This reason alone is sufficient for exploring other avenues of education and evaluation.
- iv) Section VII of the policy states its 'Priority Areas'. It says that the most important priority is 'to make the system work'. In order to achieve this, it gives a strategy which makes provision of improved Students' Services.
- v) As can be easily observed from both the policy statements, there is little difference in the salient features of both these policies. So, in view of the



rate of the population growth and the failure of our previous national education policy to achieve its end, we have to bear in mind that regular formal channels of education are not at all sufficient in Indian environment. This fact seems to be realised by the makers of the new education policy, as the importance of informal channels has been asserted in the policy statement.

Thus the need for upgrading and modernizing library facilities seems to have been recognized by the policy makers and has been expressed in the policy document in explicit words at places and implied at others. The necessity of not-so-formal and informal channels, alongwith the formal channels of education has also been realized and opening of such channels has been encouraged. As a result, a broader view about a library in an educational environment as an active centre of education rather than as an ancillary service catering to but lying essentially outside the main stream education, may also be taken. The challenge before the teaching community is to work out the specifics of such schemes, to suit the local environment.

## II

### Role of Libraries

The academic functions of the college libraries in India are aptly described by Prof D S Kothari, the Chairman of the Education Commission 1964-66. He states in his report :

"The library should provide facilities and services necessary for the success of all formal programmes of instruction, open the door to the wide world of books i.e. beyond the boundaries of one's own field of qualification and bring books, students and scholars together under conditions which encourage reading for pleasure, self discovery, personal growth and sharpening of intellectual curiosity."

The role of academic libraries in educational programme of the country is well emphasized by many thinkers and educationists. Usually described as 'the heart of the educational institutions' the libraries have an important role to play in both the formal and non-formal education.

The redesign of any educational system has to be brought about in view of the educational objectives which may be summarised as :

- 1) Learning how to learn: To make it feasible the programme of 'a library centred education' must be designed; and
- 2) Providing opportunities for pupils to work with

ideas, analyze ideas, synthesize ideas and evaluate ideas: When these ideas or concepts are translated into meaningful keywords and come to verbal plane, the library makes its triumphant entry.

In a developing country like India, access to genuine library services is rarely introduced to a student at school level. So, the responsibility of a college library becomes two-fold :

First, it has to introduce and orient a student to the functioning of a library and the services it offers; attract him to the book world and make him stay there with the help of its multifaceted services; and

Second, it has to cater to the varied and specialised needs of its scholars, students and faculty by providing personalised services like reference, documentation, bibliographic, & reprographic services. The entire book stock and other material has to be made available to its readers with reasonable ease.

In view of the role of a library envisaged in the national education policy, a more active role may be contemplated for a library in the academic curricula at the college level. Of course, if the libraries are to play such a role, they have to be better equipped and better organized. The present condition of the college libraries are by and large far from satisfactory for a large scale implementation of such a scheme. Obviously, therefore, at least in the beginning, such schemes must be implemented by individual institutions with initiative.

With some initiative on the part of the educators and administrators concerned, however, it seems feasible to develop a 'Library Centred Education System'. The system, as outlined in the next section, can be more flexible than the regular classroom instruction based system. It will also be much more oriented than the oft discussed informal channels. It will thus lie in between the formal and the informal modes. If adapted, this system will entrust the library with a more active role and will help integrate the library system with the formal education system.

## III

### Library Centred Education :

#### A Proposal for Experimentation

The discussion so far sets the scenario for making a concrete proposal which tries to seek some of the un-achieved goals of education policy in an individual institution.

The first two years of our degree college course for



Arts, Science and Commerce have been given in the hands of respective colleges by the University of Bombay quite some time back. The intentions of this step, as expressed by the then Vice Chancellor, were to allow individual institutions to experiment and to make students somewhat free from the tight schedule of University examination and syllabi. However, as we can see, the purpose is hardly served and we all are following essentially the same pattern of examination, curriculum and teaching methods.

Do the librarians have an educational role? is the question asked in different countries at different times depending upon the development of movement of modernization of education system, curricula and teaching methods. When the report, "A Nation At Risk" was published by the National Commission on Excellence in Education, U.S.A., a similar question was asked there by librarians and other educationists. It was emphasized that after mastering the basics of education the student should turn to resources for further learning. This implies three things — intensification of librarians' work, reduction in the teacher's conventional work and a relevant fundamental social change.

While establishing the role of public libraries in adult education, an equation was presented by G.Thorsten-son, Libraries + Educational Associations = Adult Education. On the same analogy we may say that Motivated Libraries + Innovative Academic Institutions = Self Learning Oriented Formal Education.

Keeping this in mind the following proposal has been prepared, where I intend to give a programme of '*Library Centred Education*', initially for Arts faculty, as the number of students there is restricted. It can be implemented with minimum modifications in the existing structure. After studying the overall response of the students and staff and the results of the project, it may be suitably modified and also extended to Science and Commerce faculties.

### *Aims of the Proposal*

The proposal aims at developing in students initiative, cultivating writing and reading habits and inculcating a habit of library use promoting original thinking and its expression.

### *The Proposal*

- 1) Different subjects at First Year and Second Year B.A. level will be brought under the purview of this project.
- 2) The whole hearted participation of the teachers is an indispensable aspect of this

project. The orientation and motivation of the teaching staff, therefore, will be sought through suitable programmes

- 3) The syllabus of every paper of First Year and Second Year B A will be studied thoroughly by the respective staff member and the librarian sitting together.
- 4) 30 to 40% of the syllabus will come under its purview.
- 5) 3 to 4% of the lectures will be given to a librarian to provide sufficient library information to the students.
- 6) The students will be assigned topics from their syllabi or their relevant current subjects of interest. A report/paper has to be submitted at the end of the stipulated period.
- 7) They will also have to prepare a bibliography on the basis of their literature search, and submit it alongwith the paper.
- 8) A group discussion or discussion sessions will be conducted during the regular lecture hours, as the number of lectures to be engaged by a teacher for regular classroom teaching will be reduced in proportion to the weightage of the assignment work.
- 9) A teacher and a librarian will guide the students in their literature search and preparation of the paper.
- 10) The time spent by the student in the library work will be noted by the library staff and will also have a weightage in the ultimate assessment of the paper.

The above proposal may be further explained with the help of a few examples in social sciences like Sociology, Political Science, Psychology etc.

First Year B A course of Sociology includes the topic Social Stratification, which may be selected for the assignment. It may be further subdivided into subtopics which can be assigned to different students or student groups.

The subtopics may be :

- 1) Social Stratification: Concept explained
- 2) Social mobility and stratification
- 3) Types of Social stratification
  - a) Class b) Caste

Second Year B A course of Sociology includes the topic of Caste in Modern India which can be subdivided



into :

- 1) Origin and introduction of traditional caste system
- 2) Caste system before the advent of British rule.
- 3) After the advent of British rule
- 4) Role of caste in independent India
- 5) Political impact of caste
- 6) Social impact of caste
- 7) Economic impact of caste
- 8) The scheduled caste : Meaning and problems

Similarly in First Year B A course of Political Science there is a topic: The Constitution as an adaptive instrument, and also The Constitution as a political instrument. These topics can be suitably subdivided into :

- 1) The role of Constitution in the political process of a country.
- 2) Indian Constitution.
- 3) Its adaptability in bringing about social change, with special reference to scheduled castes.
- 4) Its importance as a political instrument to achieve the ultimate goals of democracy.

Second Year B A course of Political Science includes the topic: Society And Politics: Caste, Class and Elites – Recruitment and Socialization. It may be subdivided into :

- 1) The relation between society and politics.
- 2) The role of caste in Politics with special reference to Indian Politics.
- 3) The role of class in politics
- 4) Recruitment and socialization.

Likewise all similar topics in all subjects may be brought under a blanket heading which may also enable organisation of an interdisciplinary student seminar.

#### IV

#### Conclusion

The quality of education or of any intangible concept is very difficult to judge. And to improve it is an even more difficult proposition. As it can be observed in both the statements, the quality of education has a rare mention. The quantity can be easily measured and monitored. Consequently there has been considerable quantitative increase in education during the last 25 years. Unfortunately the same cannot be said regarding

its quality. Though difficult, the problem needs a serious thought, and attempts must be made to improve the situation in whatever ways possible. An experiment of Library Centred Education may be one such way.

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# The Open University

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Dr. Shanker Dayal Sharma, Vice President of India, delivered the Convocation Address at the Second Convocation of the Indira Gandhi National Open University (IGNOU), New Delhi. Lauding IGNOU's achievement in building up an aggregate student enrolment of 1.12 lakh, Dr. Sharma paid tributes to the open university system and said, "The open university recommends itself because it draws on the full potential of new technologies and techniques to reach the maximum number of people and also enhance quality of learning." Excerpts

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Looking beyond ceremonial, the convocation of an open university, such as this, has certain significant features which distinguish it from convocations of conventional universities. At university convocations, normally, students gather at the end of a prolonged spell of direct teaching by professors and other academicians. Quite to the contrary, perhaps none of the students at this function would have had the occasion of direct classroom teaching. The instruction received by them

National Open University, over the period of five years or so since its inception, have been based on sound assessment of the qualitative and quantitative features of higher education in India. The Government of India's solid support — in terms of policy orientation as well as budgetary allocations — comprises a vital factor in the University's ability to operate programmes in hand and plan future growth.

I am particularly pleased to know

## CONVOCATION

would, largely, not entirely, have been through teaching-materials. Then again, convocations usually represent the exiting of students from the university into the non-academic world outside. The Open University Convocation represents the opposite: it involves students who have come to the University from different sectors of national life. This function therefore marks their entrance into a system for Continuing Education. The rigidity and mystique of university education on traditional basis, is consciously excluded under the Open University System. This convocation has more of the air of freedom about it.

It is apparent that the initiatives undertaken by the Indira Gandhi

that the IGNOU is introducing several innovative courses and is building further on management education. The selection of key areas such as water resources, construction and nursing also represents steps in the right direction. I feel other open universities could also initiate teaching programmes in these sectors.

The fact, that in five years the IGNOU has built up an aggregate student enrolment of a lakh and twelve thousand students, is an index of educational needs in our country, as much as of the utility of the open university system and the efficiency with which it is evidently organized in this University.

A perspective view of the open university system in India today amply bears out Smt. Indira Gandhi's perceptions. To recall her words, as she had said at a convocation of Poona University on April 6, 1974: "I am convinced that yesterday's expedients will not serve the world of today. Universities ought to think in a larger amplitude." At Gorakhpur University, on 11 November 1983, she had said: "Education can be truly meaningful only if its maximum benefits reach the masses." In the year of her martyrdom, on 9 March 1984, she had said: "Today, communication technology frees the entire concept of education from its previous limits of time and space."

Keeping in mind these significant observations, it is evident that the jurisdiction of the Indira Gandhi National Open University is extremely vast and challenging. Its scope includes all those who have yet to avail of specialized higher education; and also includes those who having already passed through the portals of institutions of higher learning, aim at a further upgradation of their skills and interests. Theoretically, therefore, the open university has a constituency that covers the student strength of all universities — and, indeed, the sum total operational manpower of the nation. Considering that the adult population in India is estimated to be in excess of 350 millions, there are gigantic vistas before this University: involving the task of catering to the needs of potential learners, on a constant basis and in regard to a multiplicity of fields of knowledge, at different degrees of specialization, and in different languages.

In this present age of intense international competition in science, technology, industry and other processes of economic development, we



must appreciate that our nation would have to be adaptable to the fast pace of change underway the world over. To develop necessary adaptability, it is essential that individuals take greater responsibility for their own personal development. It becomes incumbent on individuals to strive to arrange a constant enhancement in their capabilities as relevant to the needs of a modern economy in a fiercely competitive global environment. In aggregate terms, considered in the national perspective, we need to organize a high increase in the skill-level of the total national work-force — the allocable, operational manpower.

In my view, to meet such a scale of needs, it is through the open university system, working along with the normal university system, that the desired result can be achieved. The open university recommends itself because it draws on the full potential of new technologies and techniques to reach the maximum number of people and also enhance quality of learning.

With a view to magnifying the operations of the open university, on a scale commensurate with its challenging objectives, and heightening the qualitative and quantitative content of instruction imparted, it is necessary that certain inter-linkages be established with the existing infrastructure connected with education. This inter-linking should be recognized by all the institutions concerned as not only beneficial or important, but, quite simply: indispensable. With such inter-linkages it should be possible to arrange, on a growing scale, local support — both tutorial and non-tutorial, to assist students registered under the open university. Associating academicians from different disciplines in our universities, specialized institutions, professional

bodies, industrial undertakings, production and process facilities and the tertiary sector, with the task of tutoring and counselling students under the open university is very essential. Even with the best printed material or audio-visual instruction, some quotient of personal guidance is crucially necessary. Similarly, in the immediate future, the question of organising proper library support to the open university students, can be tackled only with access to established libraries, mainly available with existing universities, colleges and other organizations. Through co-ordination with selected institutions, many services, including personalized guidance and library facilities, can be availed of by students registered with the open university. Conceivably, even the most eminent academicians in such institutions could be associated, on voluntary basis, with due remuneration.

At the same time, a major effort is required for the harnessing of satellite technology so that learning material is conveyed to students with speed, clarity and regularity. The potential of the national television network needs to be linked to the task. Here too, a co-ordinative effort is called for by associating media technologists and psychologists with academic subject-specialists and education technologists. Together, such teams should devise a multidisciplinary approach for the best utilization of audio-visual means to transmit knowledge through the electronic media and radio. Preparation of sets of educational audio/video cassettes encapsulating complete course syllabi in various languages represents another need on a large scale.

Such programmes of preparing the wherewithal for disseminating educational material can only suc-

ceed if affordability is ensured from the viewpoint both of the institution and the intended users. The duty structure concerning cassettes, computer disks and floppies, used by the education sector, merits review.

A major area in which the open university can make a very valuable contribution is that of building up teaching capability to effect a quantum increase in the spread of literacy. Through the open university system, using television and radio, it should be possible, on the basis of well-prepared capsule courses on teaching technique, to equip and mobilise large numbers of teachers and volunteers to undertake a major campaign for promoting literacy. Use of the electronic media would be well justified in terms of the numbers of people sought to be trained and mobilized. Such a programme would have high socio-economic significance: as the level of literacy correlates directly with levels of public health, adoption of the planned family norm, avilment of poverty alleviation programmes, and adaptability to the needs of various sectors of economic activity. I believe that the Indira Gandhi National Open University would be performing a duty of great importance if the university can train, motivate and mobilize teachers for the literacy movement, particularly in the low-literacy areas.

We should remember the ancient Indian perception — which recognizes the liberating power of education — liberation from poverty, ignorance and prejudice. If I may mention, in passing, there is an elegant statement, concerning enrichment, in Kautilya's Arthashastra:

"Knowledge is the ornament of the learned, righteous conduct — the universal ornament, (but) the ornament of all ornaments is learning manifested with a consciousness of



due propriety."

I have mentioned this to highlight one vital aspect: the need to instil quality in the learning inculcated. The entire effort of the open university system would be meaningful, in the socio-economic context, only if the system itself has a prestigious position on the basis of the standard of education disseminated and the respect that the university's certificates, diplomas or degrees command. To ensure this, the open university must define and steadfastly adhere to high criteria for the evaluation and certification of proficiency. There should never be any compromise on quality. Indeed, quality should be the hallmark of the open university system. To enable students to attain prescribed levels, the statutes could permit sufficient elasticity regarding admission and time allowed for completing a course of study, and flexibility on the number of times a candidate may come up for examination. But the eventual standard for evaluation and certification should always be maintained at a very high level. Recognition that certification by the Indira Gandhi National Open University signifies an impressive level of attainment is the surest method to promote the acceptability and enlargement of the open university's status.

There is another dimension to which I would like to refer. The development of India's aggregate capability to impart practical education through the open university system — and international recognition of the high quality of our expertise in this sphere, — would enable a leading institution like the Indira Gandhi National Open University, to interact with other developing nations in the Third World: countries in the SAARC region, as well as in other parts of Asia, Africa and Latin America, which have problems and potentialities akin to our own. It has always been India's position to share the gains of freedom with others in a spirit of

friendship and co-operation for building a better world.

Some efforts should also be devoted, in my view, to the strengthening, amongst students, of what I would call our national values : the

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### *Communication*

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## Where Have the Values Gone?

Since the entire society is deeply concerned about the decline of values in the young, Prof. A.P. Sharma's article "How to Inculcate Values among Youth" (*University News*, Vol. XXIX No. 24 of 17th June, 1991) must command every reader's attention.

One notices a conscious and conspicuous shift in the latter-day educational philosophy from a cognitive to a kinetic development of the pupil.

A wide range of values of moral, aesthetic and social nature have evolved during the marathon march of human civilization posing before us a crisis of priorities : which of these values need to be cultivated and what is the appropriate stage of doing so?

The issue becomes all the more jumbled when it comes to fixing responsibilities : who is to inculcate values — parents, leaders, the affluent, the business tycoons, thinkers, artists, teachers? The easy and obvious answer (which the article also presumes) is, the teacher is the prime inculcator of values because the young are under his formal care.

This is both debatable and dubitable. Today's teacher is fast losing his credentials as a pure fountain of moral and academic excellence. He shares all the weaknesses and mediocrities of the masses from which he hails. He is no longer an influential hero to imitate and emulate for the young. The exposure of the young to the teacher is marginal and ineffectual in comparison with the multitudinous stimuli around

outlook of universal humanism, peace, brotherhood, service, creativity and an integrated development of personality. Without such development, education holds little meaning for me.

them. And what power has he to be an awesome preceptor?

Inculcation of values is an unbearably slow and imperceptible process with moments of fulfilment only few and far between, while the moments of frustration fecund.

The writer observes that more than ever before the need to inculcate values is felt because they — the values — have suddenly disappeared from the school premises.

Now, have they really disappeared suddenly? Like slow poisoning, it is only after death of the patient that the doctor diagnoses the malady. So, before disappearing from our school premises, values have disappeared from our homes which were once the best schools where children learned their first lessons in values.

Today we live in a world where falsehood succeeds, corruption prospers and nepotism works; where a situation prevails in which "virtue itself of vice must pardon beg" as Shakespeare puts it. These are the values the young imbibe and inhale today.

One is tempted to conclude rather sententiously that values are a necessary decoration the nextdoor people must possess, and an inconvenient and awkward sixth finger to one's palm !

Shirish Chindhade,  
Principal,  
M. U. College of Commerce,  
Pimpri-Pune.



# CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be Contacted
August 19-30, 1991	International Course on Planning and Design of Pumping Works	To provide fundamental knowledge on pumping systems and comprehensive approach to planning and design of pumping works	Asian Institute of Technology, Bangkok, Thailand	Mr. Wiboon Boonyatharokul, Program Specialist, Continuing Education Center, Asian Institute of Technology, GPO Box 2754 Bangkok-10501 Thailand
Sept. 16-20, 1991	Regional Symposium on Educational Testing	Theme : Reforms and enhancements in educational testing system, test contents and formats in a country (or region)	The National Education Examination Authority (NEEA), People's Republic of China	Mr. Yang, Xuewai, Director, National Education Examinations Authority (NEEA), State Education Commission, 30 Yu Quan Road, Beijing 100039, The People's Republic of China
Sept. 17-18, 1991	Fourth Annual Conference of the Asian Association of Open Universities	To explore the need, desirability, practicability and relevance of face to face components in Distance Education	The Open University of Sri Lanka, Colombo, Sri Lanka	Ms. C Suriyapperuma, Organising Secretary, AAOU Conference, Open University, Box 21, Nugegoda, Sri Lanka
December 9-26, 1991	Winter School on use of Statistical Software	To introduce college and university teachers to computer-oriented statistical methods and to train them in the use of statistical software packages.	Indian Statistical Institute, Calcutta	The Course Director, Winter School on use of Statistical Software, Computer Science Unit, Indian Statistical Institute, 203, Barrackpore Trunk Road, Calcutta-700 035
December 14-16, 1991	International Conference on Man & Environment	To discuss issues concerning the future of man and preservation of the unique planet earth	Motilal Nehru Regional Engineering College, Allahabad	Dr. R.K. Srivastava, Organising Secretary ICOMEN - 91, Department of Civil Engineering, Motilal Nehru Regional Engineering College, Allahabad - 211004
November 9-13, 1992	16th World Conference on Distance Education for the Twenty-First Century	To give a view of the aspects of development in Distance Education in the Twenty-First Century	International Council for Distance Education, in cooperation with Sukhothai Thammathirat Open University (STOU), Thailand	Mr. Bruce Scriven, Program Chair - 16th World Conference of ICDE, Queensland University of Technology, Locked Bag No. 2, Red Hill Queensland 4059, Australia



# Facilities for Research in Materials Technology

The Materials Science Research Centre (MSRC), set up as an interdisciplinary research unit by the IIT, Madras, has established itself as an active centre for advanced research in frontier areas. Very substantial assistance has been received through the on-going Indo-German, Indo-EEC, Indo-USSR, DST, DNES, DAE, CSIR and MHRD Projects for research in the following major areas of Research & Development.

- Superconductivity and Superconducting Materials including High T<sub>c</sub>'s
- Mixed Oxides with the Perovskite and Pyrochlore Structures
- Mixed Oxides with the NZP Structure
- Photoelectrochemical Cells and Solar Energy Conversion and storage.

Major facilities available at the

materials and heat treatment in air at very high temperatures (1700°C).

(iv) Keramax furnace (Japan) — For synthesis of materials and heat treatment in air at very high temperature (1850°C)

(v) X-ray diff. systems — X-ray characterization and to study structure of materials.

(vi) Simultaneous TGA/DTA/DSC system — For thermal analysis of solids upto 1500°C.

(vii) DC Sputter coater — To prepare thin films of metals, alloys etc. and also deposit electrodes.

(viii) R F Sputter Unit (UK) — To prepare thin films of ceramic and nonconducting solids.

(ix) 4-probe and 2-probe electrical resistivity apparatus — Measurement of resistivity as a function of temperature for semiconductors

Seebeck coefficient of metallic and semi-conducting materials. Ranges : (a) 77-300K (b) 300-600K.

(xiii) Closed cycle helium refrigerators — For measurement of resistivity and susceptibility in the range 10-300K.

(xiv) Faraday Balance — To study magnetic susceptibility of materials (77-300K; 300-800K).

(xv) Mid and Far Infrared FT spectrometer — To study metal-oxygen vibrations in solids and phase transitions (77-300K; pressure upto 75 kbar)

## M.Sc. (Tech) in Marine Geophysics

The UGC has sanctioned an assistance of Rs.127 lakhs to the Cochin University of Science and Technology for starting an M.Sc(Tech.) degree course in Marine Geophysics.

This highly job-oriented three-year programme is aimed at development of manpower in the field of Marine Geophysics, with a view to catering to the various scientific and survey organisations in India engaged in such strategic activities like oil and mineral exploration, including on-shore and offshore drilling, and seabed survey, besides meeting the demands of various teaching and research institutions in the country particularly engaged in marine geophysical and geological activities.

Of the amount sanctioned Rs.86 lakhs is earmarked for non-recurring expenses like equipment, including research vessels, laboratories, building, books and journals. An amount of Rs.41 lakhs shall be spent to meet the recurring expenses towards staff salary, boat-hire expenses etc.

## CAMPUS NEWS

Centre are as follows :

(i) Muffle, tubular and vertical furnaces with solid state controller and temperature indicator — Operable upto 1000°C continuously Useful for synthesis of compounds.

(ii) High Temperature (SiC gilder rod) furnaces with temperature control unit and programme controller — Operable upto 1400°C intermittantly (1300°C continuous). Useful for heat treatment and solid state synthesis of compounds.

(iii) Superkanthol Muffle Chamber furnaces — For synthesis of

and metals (range: 77-300K; 300-550K)

(x) Photoelectrochemical cell test set up — For the evaluation of semi-conductor PEC cells for solar energy conversion.

(xi) Solar simulation system (including monochromator) and Chopper and Thermopile radiometer — Simulates solar radiation (Xe-lamp light) which can be used for energy conversion experiments employing photoelectrochemical/solar cells.

(xii) Seebeck Coefficient apparatus — Measurement of



Practical training in marine geophysics, computer-based instruction, participation in sea-going research programmes—all form vital part of the course. The candidates will get intensive training in marine geological and geophysical investigations that have applications in various areas like coastal erosion, siltation of harbours, disposal of radioactive wastes, antipollution measures and environmental monitoring.

The programme is a joint venture of the University Grants Commission (UGC), Dept. of Ocean Development (DOD) and the Cochin University of Science and Technology.

The Dept. of Ocean Development, Government of India, has informed that the research vessels operated by the DOD and their entire shipborne instrument facilities would be made available to the students and faculty of the Cochin University. Similarly the National Institute of Oceanography, Goa, has also agreed to extend assistance for training the M.Sc.(Tech.) students.

The course commences from the current academic session and the eligibility for admission is B.Sc. degree with Geology, Mathematics, or Physics main, or B.E/B.Sc.(Engg) in Civil, Mechanical or Electrical. Admission is based on an entrance test, qualifying examination marks and an interview.

### **New Paradigms of Development**

To mark the birth anniversary of former Prime Minister Mr Rajiv Gandhi, the International Centre for Science, Culture and Consciousness proposes to organise a two-day Seminar on New Paradigms of Development for a Vibrant

Economy: Recasting Philosophy, Policy and Programme at India International Centre, New Delhi on 20-21 August, 1991. The Seminar is co-sponsored by Jawaharlal Nehru University and several other academic institutions. It is also seeking the intellectual inputs of UNESCO, World Bank, IMF, UNDP and other specialised agencies and programmes of United Nations.

The seminar will be inaugurated by Prof. Manmohan Singh, Union Finance Minister. Shri Pranab Mukherjee, Deputy Chairman, Planning Commission will deliver the keynote address. Dr. Karan Singh, Shri Vasant Sathe, Shri P.N. Haksar, Shri P.N. Dhar, Prof. B. Ramachandra, Dr. Amrik Singh, Dr. M.N. Swani, Prof. Yogendra Singh, Prof. M.S. Agwani, Prof. Bh. Krishnamurthy, Prof. P.C. Joshi are also expected to participate in the deliberations. The Seminar is also seeking the messages, blessings, write-up from the outstanding statesmen and scientists, including Nobel Laureates, artists and philosophers, economists and social activists of the world on Rajiv Gandhi's view of a modern India and the new international order based on the principles of inter-connection and inter-dependence, ecological and holistic awareness of phenomena. A Memorial Volume on Rajiv Gandhi will also be released.

The seminar will address itself to the following major issues and look forward to the emergence of viable alternatives in the light of the new paradigms of reality which will be open-ended, evolutionary, transformational, dynamic, creative; ensuring an integrated development of man and society. These are : to search for a new methodology, conceptual framework, linguistic approaches and parameters of developmental process in the context of emerging paradigms of reality, based on holistic and ecological perspectives; (ii) to identify innovative and integrated socio-economic developmental models

with a focus on decentralization and a gradual reduction of structural, sectoral and regional imbalances; (iii) to accelerate the pace of integrated rural development with the application of ecological and appropriate technologies to developmental process for improving impoverished rural environment; (iv) to search for dynamic, open-ended and flexible political structures and models which will be in consonance with the emerging world-view; (v) to evolve a unified approach to the planning as against the existing fragmented and fractured by the planning commission along the lines of disciplines; (vi) to recast priorities in science and technology with a focus on the development of appropriate technologies, cautious approach to the transfer of technology, identification of its linkages with the industry, promotion of fundamental research and scientific awareness among the youth and masses; (vii) to evaluate the implications of new electronic policy and its impact on the emerging value-system; (viii) to recast priorities in the educational system with a focus on vocationalization and value-oriented education to ensure the goal of excellence, equity and productivity in the system; (ix) to identify innovative programmes for mobilising youth and women's creative energies towards the national reconstruction; (x) to formulate new strategies for human resource development and to evolve a clear-cut policy of manpower planning; (xi) to evolve a national cultural policy and to identify Indian traditional images and symbols which could be successfully embedded in our developmental activities for stimulating the growth process; (xii) to explore the possibility of applying prigogine's paradigm of evolutionary and transformational image of man and society in the context of environmental situations and cultural ethos; and (xiii) finally to evolve new administrative and management models which will be decentralized, open-ended and flexible to facilitate



the emergence of an evolutionary and transformational image of man and society.

## Computer Assisted Language Learning and Teaching

The software package for Computer Assisted Language Learning/Teaching (CALL/T) developed at the IIT, Madras is an aid for teaching Hindi Language to the users through one of the regional Indian languages. This package is basically an authoring system which allows a teacher to prepare lessons in Indian Languages and instruct the students using lessons thus prepared and finally evaluating the performance of the students. This package consists of five major modules :

### (i) Text Editor

In order to prepare lessons, a multilingual text editor is required. The text editor allows a person to create and edit text in multiple Indian languages simultaneously.

### (ii) Graphics Editor

For preparing lessons, pictures may be required to illustrate certain important concepts. For this purpose, a graphics editor becomes essential. Using the graphics editor, graphic patterns and pictures can be generated and stored on the disk to form a library of pictures.

### (iii) Lesson Compiler

The text and graphics from the libraries created using the editors should be combined together in the proper order to form a lesson. This module deals with the above aspect.

### (iv) Question Bank Creator

At the end of every lesson, exercises should be provided to evaluate the performance of the student.

The exercises should be interactive and interesting. This module enables the teacher to create a question bank consisting of all the relevant exercises of varied nature.

### (v) Lesson Presentation Module

Once the lesson has been assembled from the text and graphic libraries, it has to be displayed as and when requested by the student. This comprises the presentation aspect of the authoring system. This also includes strategic decision making for the drill and practice session depending upon the performance of the student.

## Program for "Shorthand-to-Text" System

A computer program has been developed at the Microprocessor Systems Lab., Centre for Systems and Devices of the IIT, Madras to recognize the shorthand strokes and produce text in the desired script. A shorthand system known as "Saney's Shorthand" has been used, which records only the sounds and is thus language independent. Once the computer is informed about the language in which the dictation has been taken, the appropriate "phonetics-to-text dictionary" is invoked to produce text in the designated script.

The program has been written in 'C' programming language and the software runs on an IBM PC/XT/AT. The work has been carried out as part of the DOE project, "Computer Assisted Text Generation from Phonetic Shorthand". The main features of the Program are :

(a) The software is user trainable; thus rather than the user having to learn a new system of shorthand, the computer system

learns from the user the meaning of specific shorthand strokes.

- (b) For phonemes to word, three dictionaries — (a) primary (b) standard phrase and (c) user defined phrases are used.
- (c) The software was tested for "Saney's Shorthand", it is however equally valid for any shorthand system.
- (d) The technique can be used as a fast data entry system.

The software consists of two main modules; one for recognition and the other for subsequent transcription.

*Recognition* : To begin with, samples of each class of strokes are entered, which are used by the program to calculate the linear boundaries for each class. The unknown patterns are then processed using these boundaries. While taking dictation, the shorthand strokes are entered manually using a joystick. Each user can have a boundary file for him/herself, which is used to recognize the strokes entered by that individual. This module has a self learning feature too. If a stroke is not recognizable the program interacts with the user and "learns" the unknown stroke, by putting it along with previously recorded samples.

*Transcription* : The strokes entered are recognised and sent as a set of key codes, to search the phonetic dictionary for the appropriate language and thus find the exact spelling. When the exact word for each code is obtained, the text string consisting of these codes is formed, which can be examined and edited using a multilingual text editor. The software is now being adapted for Pitman's Shorthand, which is the most popular shorthand system.



## World Environment Day

The Department of Ecological Studies, School of Environmental Science, University of Kalyani, celebrated the World Environment Day on July 3, 1991. On this occasion a seminar was also organised which was inaugurated by Prof. K. K. Dasgupta, Vice-Chancellor. Prof. S. Bhattacharyya, Dean, Faculty of Science, presented thoughtful comments on the present status of the environment. Dr. S. C. Santra, Head, Department of Ecological

Studies, highlighted the departmental research and other academic activities in his welcome address.

In the technical session that followed, several eminent environmentalists spoke on the current ecological and environmental issues. They emphasized on the global climatic change which was a threat to the present day environment, biodiversity and species evolution through ages and importance of toxic metals in the eco-system.

nary Way"

"Vitamins : The Protective Elements-I"

### 21.8.91

"Solar Research - VI"

"Wild America : A Prairie Park"

"Principles of Biosystematics - V"

### 22.8.91

"Computer Assisted Learning"

"Portrayal of a People"

"John Clifford on William Shakespeare"

### 23.8.91

"Orthodontics"

"Searching for a Breakthrough"

"Solar Passive House - A House for all Seasons - I : The Principles"

### 24.8.91

"Artists Against Communalism - I"

"Dialogue With Sthapati"

"Art With a Difference - Paintings on Egg Shells - I"

## Fellowships and Visitorships in USA - 1992-93

The University Grants Commission (UGC) has asked the Universities to nominate senior teachers in Universities and their affiliated colleges for some fellowships and visitorships for post-doctoral research work at the universities and other institutions in the United States.

Teachers with a minimum of 10 years' teaching experience and published research work are eligible for these fellowships and visitorships. The fellowship will be for a period of one academic year (6-10 months), while the visitorship will be for a short period (2-3 months). The UGC will provide international air fare from India to USA and back.

## News from UGC

### Countrywide Classroom Programme

Between 19th August to 24th August, 1991 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The Programme is available on the TV Network throughout the country.

#### 1st Transmission

1.00 p.m. to 2.00 p.m.

#### 19.8.91

"History of Remote Sensing"

"Optical Alignment - IV"

#### 20.8.91

"Nitric Acid"

"Shake Table"

"Hypnotism - I"

#### 21.8.91

"Treasure Chamber Germany"

"India, An Idea"

"Bio-technology and its Applications"

#### 22.8.91

"Electrical Circuits - VI"

"Contemporary Museology"

"The Growth of a Poet - William Wordsworth - I"

#### 23.8.91

"Sampling - II"

"Self-esteem in Children - II"

"Plants in Your House"

#### 24.8.91

"Career in Museology"

"Sustainable Development - II"

#### 2nd Transmission

4.00 p.m. to 5.00 p.m.

#### 19.8.91

"A Quantum Leap Forwards"

"History of Banking"

"Operational Research Project for Reclamation of Saline & Water Logged Soils"

#### 20.8.91

"Bromine - Elements from the Sea"

"Change - The Inter Disciplinary Way"



In addition, the U.S. authorities will also provide allowance for maintenance, books and study-related travel in that country.

The fellowships/visitorships are for fundamental studies in frontier areas in Physics, Chemistry, Mathematics, Life Sciences, Earth Sciences and Biotechnology, Laser Technology, Marine Resources Development, Computer Science and Technology, Semi-conductor Technology, Micro-processors applications and Micro- Electronics, Communication Technology, Educational Technology and Mass Media, Renewable Energy Studies, Environmental Sciences and Technology, Urban Development and Planning, Transport Studies and So-

cial and Economic History (including Historiography), Science- Technology and Society, Comparative Literature, Literature and Society, Performing Arts, International Economic Co-operation, Money and Finance, Economics of Energy, Policy Sciences and Comparative Ethnography, Education, Planning and Management, Philosophy of Sciences, Social and Political Philosophy.

Interested teachers may contact their own Universities and get their nominations forwarded to the University Grants Commission latest by 31st August, 1991. The teachers who have already visited abroad with UGC/University assistance during last three years need not apply.

## News from Abroad

### Commonwealth of Learning Fellowships Programme

The Commonwealth of Learning (COL), in cooperation with the Government of British Columbia, has for the last two years run a very successful Fellowship Programme. Under this Programme, ten educators from developing countries have been brought each year to British Columbia to study the educational institutions involved in distance education and to discuss with professional colleagues methods and techniques they might use upon return to their home countries.

The British Columbia Government expanded its support of the Programme this year with an additional dimension aimed at increasing the opportunities for British Columbia personnel to gain experience in international education and as a means of establishing or strengthening linkages between educational institutions in developing countries and British Columbia.

Under the new scheme, The Commonwealth of Learning, in cooperation with the Government of British Columbia, awarded eight Fellowships to British Columbia educators. The educators are expected to spend approximately one month in selected developing countries providing advice and guidance in various aspects of distance education.

COL is currently carrying out discussions with representatives of the Government of Ontario regarding the implementation of a Fellowship Programme in that Province. The objective of the Programme will be to familiarise distance educators from developing countries with the infrastructures in place in Ontario institutions for the delivery of distance education courses. It is hoped that this Programme will be launched later in the year.

Other countries, provinces and states will be encouraged to sponsor COL Fellows in the future. The feedback received so far indicates that the Fellowship Programme is a positive step towards increasing the awareness of educational challenges facing less-developed countries today, as well as an effective method of establishing linkages between institutions in developed and developing countries.

### Pegasus Cambridge Scholarships

The Cambridge Commonwealth Trust, in collaboration with the Foreign and Commonwealth Office, the Overseas Development Administration, the Inner Temple and Clifford Chance, offers upto twelve full-cost Scholarships annually to outstanding students who have gained a conditional offer of a place at Cambridge University to read for the Master of Law (LLM) degree. The Scholarships are open to citizens of a number of countries including India.

On completing their course at Cambridge the Scholars will spend a period of upto three months in London working in the offices of Clifford Chance and as pupils in Chambers, under the auspices of the Inner Temple.

The Scholarships, tenable for one calendar year, will cover fees and, depending upon the applicant's resources, a contribution towards maintenance, and a return airfare.

Applicants should write, giving full details of their academic qualifications and stating that they wish to be considered for a Pegasus Cambridge Scholarship, to the Cambridge Commonwealth Trust (TPG), c/o Nehru Trust for Cambridge University, Teen Murti House, Teen Murti Marg, New Delhi 110011. Suitably qualified applicants will be sent a Preliminary Application Form which must be returned to the above address by 1 September 1991.



## An Interesting Study

K. K. Balachander\*

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Bhaskaran Nair, P.V. *Costs and Returns of University Education*. Trivandrum, CBH Publications, 1990. pp. ix + 136, Rs. 125.00

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Planning of education as a facet of economic growth was one of the important policy objectives which received special emphasis in many countries, particularly the developing ones, from the beginning of the sixties. Several economists spoke of the relationship between the economic-growth-potential of a nation and the educational attainments of the people, and attempts were made to tackle the problem of measuring the precise ways in which, and the degrees to which, education contributed to economic growth. They produced historical examples of countries which enjoyed superior economic growth due to their paying greater attention to raising the educational level of their people.

Development depends on the ability of a nation to acquire and apply knowledge and technology, and this ability can grow only from a solid foundation of education, especially higher education. The novelty of the researches conducted in the sixties consisted in the application of analytical tools for putting investment in education on a comparable footing with investment in physical resources. According to Richard Eckaus (*Estimating the Returns to Education: A Disaggregated Approach*, 1973), the con-

firmation by economic studies that "education pays off" was no surprise—in fact, that *was* the *folklore*. However, the impact of the rate-of-return calculations was to raise this folklore to the status of scientific maxim.

This growing interest in the *economic value* of education was described by M.J. Bowman (1966) as the "human investment revolution in economic thought". Today, few would dispute that human resources enrichment through education contributes to economic growth no less than physical capital. In fact, in developing countries especially, it is argued that properly planned investments in education paid greater economic dividends. It is to be expected then that governments of these countries should play a major role in the development of education. Education should be accepted as a national responsibility, and not considered as just the private concern of individuals or households. Also, it should get a larger share of funds than it had got before. In short, investment in education should be treated as a parameter of development; thus instead of resources being allocated to the sector on a *residual* basis, as had hitherto been the practice in many countries including India, it should be done on a *priority* basis.

Since education involves the use

of vast amount of resources, it is natural to ask questions relating to the economic returns from education. Attempts have been made to estimate the same for different *levels* and *types* of education in accordance with the requirements of the economy as well as the individual. Rates of return on investment in education provide a convenient way of summarising the relationship between costs and benefits. This technique is used for assessing the economic justification of investment in education. Such calculations relating to investment in education enable the policy-makers to obtain answers to some of the relevant questions such as : Is the total quantum of resources devoted to education correct? How can the scarce resources be used as productively and efficiently as possible? Are the resources allocated to different stages/types of education properly distributed? Do the students (or parents) respond to the variations in the returns to different types of education, especially higher education? The returns from investment in education could also be contrasted with those from physical investment. However, an important limitation to the calculation of the rates of return has been that, for all practical purposes, only those costs/benefits are considered which are *measurable* and which can be transformed into *monetary terms*. The interpretation of the rates of return to education at secondary and higher levels is still controversial as adjustments will have to be made for many factors which are difficult to compute in exact money terms. Especially the benefit side of the equation is a little more complex.

In India, quite a number of studies have been conducted relating to rates of return on higher educational investment in which the costs of the investment are com-

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\*Secretary-Technical Coordinator, ULP in Economics, Department of Economics, University of Bombay, Vidyanaagri, Bombay - 400 098.



pared with the future income benefits that may be received by the individuals and by the society in general e.g. Hussain (1967), Harberger (1965), Nallagoundan (1967), Selowsky (1967), Blaug et.al (1969), Pandit (1972), Kothari (1967), Goel (1975), Tilak (1987) and Sailabala Devi (1988). Though the results vary widely, by and large, they provide evidence of the existence of positive and high rates of return as compared to alternative rates of return, thus justifying further investment in higher education strictly on the grounds of economic efficiency. (See J.B.G. Tilak, *Financing Higher Education in India*, 1991). *These estimates of rates of return also suggest that higher education yields higher rates of return to the individuals, than to the society at large.* This may be due to the fact that large public subsidies make higher education (particularly professional/technical categories) more attractive to the individuals. This suggests that an excess demand for higher education, particularly professional/technical categories like medicine and engineering, arises from an overly optimistic privately-perceived benefits. The idea that expenditure on higher education is a sound investment, which brings its rewards in a good career and better income for life appears to have penetrated among private individuals and households. Therefore, a shift of part of the cost burden from the government to individuals/households is not likely to be a disincentive to investment in higher education, given its present high private margin of profitability. Even when allowances are made for a significant 'waiting period' before employment, higher education is still a profitable investment for the individual. (See World Bank, *Investment in Indian Education: Uneconomic?* 1979).

Bhaskaran Nair's Study on "Cos-

ts and Returns of University Education" attempts to estimate the unit cost (unit private and unit social cost) of education at the postgraduate (M.A./M.Com./M.Sc.) and doctoral levels and to compute the internal rates of return (IRR) on investment in university education (both private and social) at the postgraduate and doctoral (Arts, Humanities and Science) levels. Very few indepth studies have been conducted in India to estimate the private and social rates of returns specifically for postgraduate and Ph.D. levels of education. The study is based on both primary and secondary data.

The study reveals that IRR is influenced by such factors as the choice of profession rather than by the level of education. Further, it is found that private and social rates of return of M.A./M.Com. degree holders, who belong to the teaching profession, are 11.89 percent and 7.35 percent respectively while the corresponding figures for those in the non-teaching profession are only 6.10 percent and 3.95 percent, even though the educational qualifications are the same in both the cases. For M.Sc., the private and social rates are 11.84 percent and 3.68 percent respectively for teachers and 16.60 and 6.21 for non-teachers. Thus, while the maximum rate of return (both private and social) is for teachers with M.A./M.Com. qualifications, the reverse is true for M.Sc. degree holders since it is the non-teachers among them who get the highest rates of return. Among the Doctorate degree holders, the study shows that the rates of return generally differ according to the faculty under which they are qualified and not on the basis of their profession. As a result, it is seen that the private and social rates for a Doctorate in the faculty of Arts and Humanities are 5.80 percent

and 2.87 percent respectively; in the faculty of Science, the corresponding figures are 8.8 percent and 0.59 percent respectively.

Those with M.Sc. qualification engaged in non-teaching profession, on the whole, enjoy the highest private rate of return (16.60 percent) while the lowest (5.80 percent) is in respect of those who take Doctorate degree in Arts and Humanities. On the other hand, Doctorate degree holders in Science who are teachers bring in the lowest social rate of return (0.59 percent) while their colleagues with M.A./M.Com. qualifications achieve the highest rate (7.35 percent). The comparatively lower 'social' rates for the Doctorates, the author states, may be due to the very high public cost of research including institutional cost, especially in the University Science departments. The comparatively lower 'private' rates for the Doctorates may be attributable to the relatively high cost of research and the lack of additional earnings of the doctorate degree holders commensurate with their qualification. Among the postgraduates, the rates of return for 'non-teachers' with M.A./M.Com. degree is the lowest as mentioned earlier; this is because most of them are found working in jobs requiring only lower qualifications and are not given higher salary commensurate with their qualification.

The Study reveals that the private rate of return exceeds the social rate in all cases. *This may be due to the fact that postgraduate education and research are liberally subsidised by the Government; the social costs are much higher than the social benefits.* The interpretation presented here is broadly in line with the trend of thinking of researchers referred to earlier. By and large, the results show that *as far as individuals are concerned, in-*



vestment in postgraduate education is a sound one, while it is not so for the society. The social rate of return is much lower than the rate of interest on fixed deposits in nationalised banks (12 per cent). One has therefore to make a case for more public investment in these types of university education by considering the *indirect non-economic spill-over benefits* to the society which are not reflected in earnings and hence in the rate of return analysis. *However, if increasing public expenditure on higher education is seen as a means of creating such social benefits as equality of opportunity, and access to higher education for the lower-income groups, one could safely say that it has failed in India.* (K. K. Balachander. "Financing of Higher Education : A Public Economics Perspective." *Mainstream* March 25, 1989)

Perhaps, the author could have paid a little more attention to the methodological aspects. Besides, the analysis of the various issues involved in educational investments cannot be viewed in the same vein as we view investments in other activities. Some of the obvious features like the heterogeneity, the micro-macro conflicts in decision making, and the societal nature of the activity as also the intergenerational implications of the higher educational investments surely deserved a discussion in such a study. In the absence of such a perspective, the results lose much of their analytical sharpness. Consequently, the major conclusion along 'marginalist' lines tends to obscure the pitfalls of viewing investment in education as an 'add on' activity rather than as an integral part of the process of socio-economic transformation. In fact, both the cost-benefit analysis and manpower planning have been criticised by educationists on the ground that in the process the real purpose of

education has been forgotten. In this context, Keynes had observed : "Do not let us over estimate the importance of the economic problem, or sacrifice to its supposed necessities other matters of greater and more permanent significance" (Quoted by Charles P. Carter, "Costs and Benefits of Mass Higher Education", *Higher Education*. Vol.2, No.2, May 1973).

This does not mean that economists, and researchers in the field of Economics of Education, have no role to play. Surely, there is still something left for them to say on planning and financing of education, especially in developing countries. The insights they could bring to bear on some of the issues referred to above — as well as those issues raised by Dr. Amrik Singh in his well-written Foreword — might well have implications for government policy.

With his vast experience in education planning and administration for over two decades, *the author*

*could have given more concrete recommendations not only with regard to the areas to be researched further but also the kind of policy initiatives that need to be taken both at the government and institutional levels especially with regard to financing of higher education in India on the basis of his findings.* Is the present balance between public and private financing of university education optimal, taking into account the large discrepancy between private and social returns?

The above remarks should not, however, detract us from the merits of this empirical exercise, though obviously limited to a small sample and the data from a single university. The study bears the imprint of considerable amount of work resulting in an *interesting* analysis. Viewed in the general context of paucity of literature, particularly dealing with the analysis of investment in higher education (at postgraduate and doctoral levels), Bhaskaran Nair's work cannot but attract the attention of researchers in the field of Economics of Education.

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## RESEARCH IN PROGRESS

### A list of Research Scholars registered for Doctoral Degrees in Indian Universities

#### SOCIAL SCIENCES

##### Political Science

1. Abdetta, Dibaba. **Non-Aligned movement and its relevance in the changing international relation.** HP. Dr Javed Alam, Department of Political Science, Himachal Pradesh University, Shimla.
2. Ahluwalia, Vinod Kumar. **Interests, issues and patterns in competitive politics in Himachal Pradesh: A case study of District Kullu in Himachal Pradesh since 1966.** HP. Dr Ranbir Sharma, Department of Political Science, Himachal Pradesh University, Shimla.
3. Attri, Sushma. **Political and non-political modes of participation of women since Green Revolution in Panjab.** HP. Dr Javed Alam, Department of Political Science, Himachal Pradesh University, Shimla.
4. Bhag Chand. **Politics of violence and terrorism in Panjab, 1978-92.** HP. Dr Gopal Singh, Department of Political Science, Himachal Pradesh University, Shimla.
5. Bhalla, Devinder Kaur. **Factionalism in Akali Dal in Panjab since 1967: A study of issues and personalities.** HP. Dr Gopal Singh, Department of Political Science, Himachal Pradesh University, Shimla.
6. Bhutani, Karuna. **Gandhi and the Indian Communists.** HP. Dr Suneera Kapoor, Department of Political Science, Himachal Pradesh University, Shimla.
7. Charu Lata. **The role of military in politics: A case study of Bangladesh.** HP. Dr R S Chauhan, Department of Political Science, Himachal Pradesh University, Shimla.
8. Jinderjit Kaur. **Lala Lajpat Rai's role in Congress and Hindu Mahasabha.** HP. Dr Suneera Kapoor, Department of Political Science, Himachal Pradesh University, Shimla.
9. Kiran Kanta. **The development of the political ideas of M N Roy.** HP. Dr Suneera Kapoor, Department of Political Science, Himachal Pradesh University, Shimla.
10. Manju. **Modernisation of political institutions in Nepal.** HP. Dr R S Chauhan, Department of Political Science, Himachal Pradesh University, Shimla.
11. Mohanan, K B. **Tamil ethnicity as a factor in Indo-Sri Lanka relations.** Kerala. Dr M Bhaskaran Nair, Prof, Department of Politics, University of Kerala, Kariavattom.
12. Patil, Shirang Baburao. **A study in administration of non-agricultural universities in Maharashtra.** Shivaji. Dr B B Vibhute, Actg Director, Department of Adult and Continuing Education, Shivaji University, Kolhapur.
13. Sasidharan, D. **Leadership and policy making in the R S P: A comparative analysis of the Kerala and West Bengal coalition experiences.** Kerala. Dr G Gopakumar, Lecturer, Department of Politics, University of Kerala, Kariavattom.
14. Sharma, Trilok Chand. **General elections in Himachal Pradesh: A study in political development.** HP. Dr V D Kaushik,



Department of Political Science, Directorate of Correspondence Courses, Himachal Pradesh University, Shimla.

#### **Economics**

1. Jadu, S. **Inter-state differences in agricultural growth in India.** Kerala. Dr C Radhakrishnan Nair, Reader, Department of Economics, University of Kerala, Kariavattom.

2. Yadav, Prakash Dattatray. **The evolution, fixation and structure of wages of workers in sugar co-operatives.** Shivaji. Dr V B Jugale, Department of Economics, Shivaji University, Kolhapur.

#### **Law**

1. Anil Kumar, K. **Economics of statutory interpretation.** Kerala. Dr K Parameswaran, Prof, Centre for Advanced Legal Studies and Research, Punnen Road, Thiruvananthapuram.

2. Ramachandran Nair, V. **Problems of National security and the concept of personal liberty.** Kerala. Prof M Krishana Nair, Centre for Advanced Legal Studies and Research, Punnen Road, Thiruvananthapuram.

3. Ravikumar, R. **Indian Constitution and economic change with special reference to industrial policy resolutions and legislation.** Kerala. Prof R Sankaradasan Thampi, Dwaraka, 39 Shanthi Nagar, Thiruvananthapuram.

4. Sampath, A. **Law as an instrument to check traffic in narcotics and drug addiction: A comparative study.** Kerala. Prof. M Krishnan Nair, Centre for Advanced Legal Studies and Research, Punnen Road, Thiruvananthapuram.

5. Thyagaraja Babu, B S. **Socio-legal aspects of Rent Control Legislation in Kerala.** Kerala. Prof M Krishnan Nair, Centre for Advanced Legal Studies and Research, Punnen Road, Thiruvananthapuram.

#### **Public Administration**

1. Kango, Ramesh Chand. **Social welfare administration in Himachal Pradesh with special reference to women and child welfare: A study of Solan and Mandi Districts.** HP. Dr P N Gautam, Department of Public Administration, Himachal Pradesh University, Shimla.

2. Om Pal. **Forest administration in Himachal Pradesh with special reference to people's participation.** HP. Dr Shiv Raj Singh, Department of Public Administration, Himachal Pradesh University, Shimla.

3. Rajoo, Anupama. **Administrative reforms in India: A critical analysis.** HP. Dr R D Sharma, Department of Public Administration, Himachal Pradesh University, Shimla.

4. Samriti. **Administrative problems of All India Institute of Medical Sciences, New Delhi.** HP. Dr R D Sharma, Department of Public Administration, Himachal Pradesh University, Shimla.

5. Sharwan Kumar. **The role of cooperatives in agriculture in Himachal Pradesh with special reference to Kinnaur and Bilaspur Districts.** HP. Dr P N Gautam, Department of Public Administration, Himachal Pradesh University, Shimla.

6. Verma, Babu Ram. **Civil Service in two states: A comparative study of Haryana and Himachal Pradesh.** HP. Dr Shiv Raj Singh, Department of Public Administration, Himachal Pradesh University, Shimla.

#### **Education**

1. Jadhav, Mohan Lalasaheb. **Development of education in**

**Satara District during post-independence period and its impact on rural socio-economic life.** Shivaji. Dr R S Gurav, V N College of Education, Kolhapur.

2. Kunhinraman, T V. **Development of tests for identification of learning disabilities among primary school children and assessment of their learning disabilities.** Kerala. Dr Mercy Abraham, Prof, Department of Education, University of Kerala, Trivandrum.

3. Modak, Fatima Musa. **A critical study of vocationalization of education in Ratnagiri District.** Shivaji. Dr R B Dewasthalee, Department of Education, Shivaji University, Kolhapur.

4. Mohite, Mahadeo Dattu. **An inquiry into the present position and problems of teaching Mathematics in the secondary schools of Solapur District.** Shivaji. Dr T B Patil, College of Education, Barsi.

5. More, Chandrakant Shankar. **A critical study of the current position and problems of teaching science in secondary schools, located in Solapur District.** Shivaji. Dr T B Patil, College of Education, Barsi.

6. Pawar, Vatsala Uddhavrao. **A critical study of common errors in composition writing in English with special reference to VII standard.** Shivaji. Dr T B Patil, College of Education, Barsi.

7. Shinde, Jayasingrao Babusaheb. **The study of educational thoughts and work of Chhatrapati Shahu Maharaj of Kolhapur.** Shivaji. Dr K S Gurav, V N College of Education, Kolhapur.

8. Thombare, Vidya Vasudeo. **A critical study of the Ashram schools in the State of Maharashtra with special reference to Kolhapur and Satara Districts.** Shivaji. Dr M G Mali, A J A Mahavidyalaya, Gargoti, Distt Kolhapur.

9. Topkar, Rekha Bhanudas. **Sangli Jilyateel shahri va grameen bhagateel madhyamik staravaril matribhasha Marathidhya adhyayan: Adhyapanachya samsyancha tulnatmak abhyas.** Shivaji. Dr R B Dewasthalee, Department of Education, Shivaji University, Kolhapur.

#### **Commerce**

1. Chougule, Praveen Narayan. **A study of various aspects of Bombay Stock Exchange.** Shivaji. Dr S G Bhanushali, D R K College of Commerce, Kolhapur.

2. Dinkar, Herlekar Gayatri. **A study of some aspects of inventory management in the Maharashtra State Electricity Board with special reference to Stores Maintenance Circle, Pune.** Shivaji. Dr R L Moktali, D R K College of Commerce, Kolhapur.

3. Jadhav, Namdeo Laxman. **A study of selected urban co-operative banks in Sangli with special reference to customer service.** Shivaji. Dr C S Shreshthi, Chhatrapati Shahu Central Institute of Business Education and Research, Kolhapur.

4. Kholkumbe, Biraj Shripal. **Management of modernisation in composite textile mills with special reference to the Madhavnagar Cotton Mills Limited.** Shivaji. Dr B N Belagali, G A College of Commerce, Sangli.

5. Mehta, Sureshchandra Punamchand. **Gujarat ma pradeshik khetdhiran sanadarbh ma Lead Bank, Denabank, ni: Kamgiri Sabarkantha aane Mehsana Jilla aono abhyas, varsh 1980 the 1989.** North Gujarat. Dr P C Raijiwala, Arts and Commerce College, Himmatnagar.

6. Mudgal, Vijay Shankar. **The economics of fare structure of State Road Transport Corporation: A case study of Maharashtra State Road Transport Corporation.** Shivaji. Dr R M Tungare, Chhatrapati Shahu Central Institute of Business Education and Re-



search, Kolhapur.

7. Naik, Chitra Atmaram. **A study of impact of accidents, safety and health on productivity of workers in selected industrial units of Kolhapur City.** Shivaji. Dr V V Khanzode, Chhatrapati Shahu Central Institute of Business Education and Research, Kolhapur.

8. Paila, Anil Subbarao. **Design and development of information systmes for modern business management: Case studies.** Shivaji. Dr C S Shreshthi, Chhatrapati Shahu Central Institute of Business Education and Research, Kolhapur.

9. Parab, Ulhas Shiva. **Management and development of Passenger Road Transport in Goa with special reference to Kadamba Transport Corporation.** Shivaji. Dr P S Rao, Chhatrapati Shahu Central Institute of Business Education and Research, Kolhapur.

## HUMANITIES

### Language & Literature

#### English

1. Buwa, Balkrishna Shankarrao. **A critical study of the novels of William Styron.** Shivaji. Dr C J Jahagirdar, Department of English, Shivaji University, Kolhapur.

2. Deshpande, Hanmant Vyankatesh. **New criticism and the modern critical thought in Marathi: A study in influence and reception.** Shivaji. Dr C J Jahagirdar, Department of English, Shivaji University, Kolhapur.

3. John, Elma. **The new woman in Ibsen and Shaw: A feminist perspective.** Kerala. Dr B Kumari Chandrika, Department of English, All Saints College, Thiruvananthapuram.

4. Khan, Shaheda Gafur. **A note of social protest in The Black Muslim writers in America.** Shivaji. Dr P R Kher, Department of English, Shivaji University, Kolhapur.

5. Kulkarni, Laxman Vinayak. **Explorations into the uses of the Cloze Technique in E L T.** Shivaji. Dr S V Shastri, Head, Department of English, Shivaji University, Kolhapur.

6. Narvekar, Meena Bharat. **The depiction of violence, guilt and sin in the major novels of Graham Greene.** Shivaji, Dr S A Chougule, Night College of Arts and Commerce, Kolhapur.

7. Salunkhe, Sumati Rajaram. **The complex noun phrase in Indian English.** Shivaji. Dr S V Shastri, Department of English, Shivaji University, Kolhapur.

#### Sanskrit

1. Date, Sharayoo Govind. **Sanskritateel samvadatmak shaikshnik manashastra ani shikshan pranali ani tadnushangik ashyachya drishtikonatoot: Ek abhyas.** Shivaji. Dr P P Apte, Editor, Sanskrit Dictionary, Deccan College, Poona.

2. Deshpande, Sudhakar Vasant. **Treatment of love in Sanskrit drama with special reference to the dramatic works of Bhasa, Sudraka, Kalidas and Bhavabhuti.** Shivaji. Dr G V Kulkarni, 233 E, Surashree Apartments, Tarabai Park, Kolhapur.

3. Joshi, Keshavbhai Jayrambhai. **Religion and Philosophy in Shivapurana: A critical study.** North Gujarat. Dr M I Prajapati, Arts and Commerce College, Thara.

4. Parvate, Anjali Madhav. **Adhyatma Ramayan: Ek chikitsak abhyas.** Shivaji. Dr K V Apte, Willingdon College, Sangli.

5. Patel, Hemrajbhai Ramabhai. **Conception of bhakti rasa in Sanskrit poetics and bhakti shastra: A critical study.** North Gujarat. Dr M I Prajapati, Arts and Commerce College, Thara.

#### Hindi

1. Gowande, Ramesh Laxman. **Nirala ka kavya mein prayukta pramubh aadhya bimbon ka anusheelan.** Shivaji. Dr G R Kulkarni, Smt M G Kanya Mahavidyalaya, Sangli.

2. More, Ishwar Ramchandra. **Ramdarsh Mishra ke vyaktitva evam krititva ka samagra anusheelan.** Shivaji. Dr Sunilkumar Lawate, Nishainkur, Ranaware Colony, Ring Road, Salokhenagar, Kolhapur.

3. More, Manik Maruti. **Swatantrayottar Hindi upanyason mein nimna varga.** Shivaji. Dr T L Kotmire, Yashwantrao Chavan Warana Mahavidyalaya, Warananagar.

4. Selvaraj, C. **Contribution of Dr Shyamsingh Shashi and S K Pottakkat to Hindi and Malayalam Travelogue.** Kerala. Dr S Christudas Chandran, 39 Ashoka, Spencer Junction, Thiruvananthapuram.

5. Shaikh Hussainkhan Mohammedkhan. **Gurjar Suflyasant kavlyon kee Hindi sahitya ko den.** North Gujarat. Dr H G Shukla, Arts and Science College, Patna.

6. Surve, Vasant Dadu. **Bhishma Sahni ka katha sahitya mein samajik chetana.** Shivaji. Dr T L Kotmire, Yashwantrao Chavan Warana Mahavidyalaya, Warananagar.

7. Thakar, Nishikant Shankar. **Samkaleen Hindi natak kee adhunik pravrittiyon ka anusheelan.** Shivaji.

#### Marathi

1. Agnihotri, Pushpa Krishnaji. **Prachin Marathiteel Shiv vishyak kathanehya swarupacha vangmaya prakardrishtya vivechak abhyas.** Shivaji. Dr V N Kulkarni, Willingdon College, Sangli.

2. Aradhye, Surekha Chandrakant. **Marathi Navkathetoon pragatna- ya istri jeewnacha abhyas.** Shivaji. Dr R G Bidkar, Department of Marathi, Sangmeshwar College, Solapur.

3. Bapat, Vanadana Shriram. **Marathiteel prahasnancha vikas prarambh te 1980.** Shivaji. Dr V N Kulkarni, Willingdon College, Sangli.

4. Kulkarni, Rajaram Narayan. **Marathi kavyateel kalpanashaktiche swaroop, 1950 autrachya kahil Marathi kavichya kavitanच्या सन्दर्भानि.** Shivaji. Dr P D Gumaste.

5. Limbale, Sharnkumar Hanmanta. **Dalit shaityanchya sameekshecha chikitsak abhyas.** Shivaji. Dr L R Nasirabadkar, Department of Marathi, Shivaji University, Kolhapur.

6. Navathe, Kalindi Vasudeo. **Mahanubhavache Prameshwar vishyak tatvagyan ani tyanchya vangmayateel vyakta jhalele Shrikrishan charitra.** Shivaji. Dr V N Kulkarni, Willingdon College, Sangli.

7. Shinde, Shashikant Shriram. **Sharatchandra muktibodh: Sahitya ani sameeksha.** Shivaji. Dr G M Pawar, Head, Department of Marathi, Shivaji University, Kolhapur.

8. Shinde, Suresh Dagdu. **VS Khandikaranchya kadambariteel valcharikta ani samaj jeewananche chitran.** Shivaji. Dr D T Bhosale, Pandharpur College, Pandharpur, Distt Solapur.

9. Wadkar, Vijaya Mahadev. **Maharshi vitthal Ramji Shinde yanche lalit swaroopache lekhan: Sarvageen abhyas.** Shivaji. Dr G M Pawar, Head, Department of Marathi, Shivaji University, Kolhapur.

#### Gujarati

1. Baloch, Kasam Noormamad. **Ghayal Mariz tatha Befam ni**



**gazonu tulnatmak adhyayan.** North Gujarat. Dr B M Brambhatt, Arts and Commerce College, Idar.

2. Bilakhai, Ilaben Shantilal. **Shri Dhumketni navlika temaj navalkathana nari-patro.** North Gujarat. Dr R V Dave, Arts and Commerce College, Kadi.

#### Arabic

1. Saleem, A. **Contribution of India to Arabic historiography: A bibliographic study.** Kerala. Dr M A Ubaid, Lecturer, Department of Arabic, University College, University of Kerala, Trivandrum.

#### Malayalam

1. Manjunath, J. **The literaray criticism of Sukumar Azhikode: A critical study.** Kerala. Dr K Prasobhan, Reader, Department of Malayalam, Institute of Correspondence Courses, University of Kerala, Kariavattom.

#### Geography

1. Sawant, P R. **Ecological and socio-economic impact of Dhom Dam on affected and benefited areas of Wai Taluka.** Shivaji. Dr P W Deshmukh, Department of Geography, Shivaji University, Kolhapur.

#### History

1. Chitradevi, V. **Socio economic transition in Baroda State, 1900-1947.** Kerala. Dr V Sankaran Nair, Consultant, Institute of Management in Government, Barton Hill, Trivandrum.

2. Kanakaraj, A. **The history of the Y M C A's Integrated Rural Development in South India.** Kerala. Dr B Sobhana, Lecturer, Department of History, University of Kerala, Kariavattom.

3. Raveendran, C. **History of industrialisation of Travancore, 1936-49.** Kerala. Dr R N Yesudas, Reader, Institute of Correspondence Courses, University of Kerala, Kariavattom.

## THESES OF THE MONTH

### A list of Docotral Theses accepted by Indian Universities

#### SOCIAL SCIENCES

##### Journalism

1. Mishra, Dasarathi. **Creativity in advertising: A study of trends in Eastern Indian Newspapers since independence.** Berhampur. Prof Chintamani Mohapatro, Prof (Retd), Deparment of Journalism and Mass Communication, Berhampur University, Berhampur.

##### Psychology

1. Konantambigi, Rajani M. **Cognitive and social development of pre-school children in home and daycare enivronment.** TISS. Dr (Ms) U S Nayar, Head, Unit for Child and Youth Research, Tata Institute of Social Sciences, Bombay.

2. Mallik, Shikha. **A study of training in an industrial setting with special reference to motivation.** TISS. Prof P K Muttagi, Head (Retd), Unit for Urban Studies, Tata Institute of Social Sciences, Bombay.

##### Sociology

1. Ghugere, Sarvakant Balasaheb. **Veerashaivism in Maharashtra: A sociological analysis with speical reference to Kolhapur District.** Shivaji. Dr A D Madgulkar, Chhatrpati Shahu Central Institute of Business Education and Research, Kolhapur.

2. Singh, Phul Chand. **A sociological analysis of the mode of production in agriculture: A case study of a District in Bihar.** JNU. Prof K L Sharma, Centre for the Study of Social Systems, Jawaharlal Nehru University, New Delhi.

##### Social Work

1. Belinda Anandavalli, C. **A study on quality of family life of alcoholics.** Shivaji. Dr T B B S V Ramanaiah, Chhatrapati Shahu Central Institute of Business Education and Research, Kolhapur.

##### Political Science

1. Acharya, Alka. **Historiography in Communist China: A case**

**study of confucius and the anti-confucius campaign.** JNU. Prof G P Deshpande, Centre for East Asian Studies, Jawaharlal Nehru University, New Delhi.

2. Alghamdy, Ali M S. **Leadership and political development: A study of South Indian experience since 1967.** AMU. Dr M S Beg, Prof, Department of Political Science, Aligarh Muslim University, Aligarh.

3. Behera, Bhagaban. **Presidency of Ferdinand Marcos, 1965-81: An assessment.** JNU. Dr Pushpesh Pant, Centre for South, Central and South-East Asian and South-West Pacific Studies, Jawaharlal Nehru University, New Delhi.

4. Diwakar, Indira. **Swatantrayoprant Bhartiya rajniti mein dharam kee bhoomika.** H S Gour. Dr R P Gautam, Department of Political Science and Public Administration, Dr Harisingh Gour Vishwavidyalaya, Sagar.

5. Jitendra Kumar. **Normative regulation of outer space activities: India's interests and role.** JNU. Prof R P Anand, Centre for Studies in Diplomacy, International Law and Economics, Jawaharlal Nehru University, New Delhi.

6. Joshi, Ravikant Dattaram. **A case study of Baroda Municipal Corporation.** Baroda.

7. Kittur, Ashokkumar Tirkaraddi. **The working of Panchayati Raj institutions in Karnataka with special reference to Dharwad District.** Karnatak. Dr V T Patil, Jawaharlal Nehru Prof of Political Science, Department of Political Science, Karnatak University, Dharwad.

8. Lahidi, Archana. **Mahatma Gandhi ke satyagrah darshan ke antragat pratipadit nirmankari karyakram ke adharboot siddhan-ton aur vyavhar ke paripreskshya mein Vishwavidyalaya Gandhar parikalpana ka anusheelan.** Vikram. Dr P K Bhattacharya, Director, Adult Continuing Education and Extension Programme, Vikram University, Ujjain.

9. Laxmi, K. **Women and politics; political participation and performance of women in A P since 1977: A study of women leadership.** Osmania.



10. Periakaruppan, P. **Prison administration in Tamil Nadu.** Madurai.

11. Shirgave, Dadasaheb Ramchandra. **Nature and study of the family planning administration with special reference to Kolhapur District.** Shivaji. Dr K K Kavalekar, Prof and Head, Department of Political Science, Shivaji University, Kolhapur.

12. Showry, Etukuri Bala. **Development aid in East Central Africa.** JNU. Prof R C Sharma, Centre for International Politics, Organisation and Disarmament, Jawaharlal Nehru University, New Delhi.

#### Economics

1. Benarjee, Dasari Babu Rajendra Nirmala Kumar. **Factors influencing industrial relations: A case study of Hindustan Shipyard Limited, Visakhapatnam.** Andhra.

2. Barathan, D. **A study of financial incentives and industrial development in the backward regions of Tirunelveli District.** Madurai.

3. Chakraborti, Gopalkrishna. **Structure and interrelations between different markets in agriculture.** Calcutta.

4. Deshmukh, Prakash Keshavrao. **Growth Centre, a strategy for rural development: A case study of Warana Co-operative Complex.** Shivaji. Dr S S Sahasrabudhe, Chhatrpati Shahu Central Institute of Business Education and Research, Kolhapur.

5. Divashli, Ibrahim Sairi. **A comparative study of agricultural productivity in India and Iran with special reference to rice, paddy, and wheat, 1975-85.** Vikram Dr R M Goyal, E-3/169, Arera Colony, Bhopal.

6. Ghomorlow, Nader. **Human resource development programmes with special reference to Iran.** Shivaji. Dr T G Naik, Department of Economics, Shivaji University, Kolhapur.

7. Ibrahim Raja Mohd Al-Husain Al-Nawasreh. **Foreign trade and economic development: A case study of Jordan.** Nagpur. Mrs A P Kulkarni, Department of Economics, Nagpur University, Nagpur.

8. Jadeja, K U. **An analysis of cost return of groundnut crop in Saurashtra Region.** Saurashtra. Dr B H Joshi, Reader, Department of Economics, Saurashtra University, Rajkot.

9. Jain, Arun. **Ayat pratisthapan mein M P ka yogdan: Engineering tatha nirmani udyogon ke vishesh snadarbh mein.** Vikram. Dr Harish Pradhan, Ajad Nagar, Ujjain.

10. Jain, Dinesh Kumar. **Industrial sickness and tax incentives in India.** Rajasthan. Dr Sugna Chand Jain, Department of Accountancy and Business Statistics, University of Rajasthan, Jaipur.

11. Jose, K G. **Rural transformation in Kerala: A case study with reference to three Panchayats.** CUST. Dr K C Sankaranarayanan, Department of Applied Economics, Cochin University of Science and Technology, Kochi.

12. Karbasi, Mohammad Reza. **The nature and effects of inflation in developing countries with special reference to Iran, 1973-74**

to 1983-84. Shivaji. Dr (Mrs) S B Pandit, Department of Economics, Shivaji University, Kolhapur.

13. Koli, Pushpanjai Payagondrao. **A critical appraisal of Women's Urban Co-operative banks in Western Maharashtra.** Shivaji. Dr T G Naik, Department of Economics, Shivaji University, Kolhapur.

14. Mukhopadhyay, Subir. **Inter-state differential agricultural productivity with special reference to West Bengal.** Rabindra Bharati.

15. Murugan, A Jothi. **Socio-economic impact in tribal development schemes in Tamil Nadu: A comparative study of Kalrayan Hills of Salem and South Arcot Districts.** Madras.

16. Pochanna, K. **Productivity, labour use and income distribution under new agricultural technology: A case study of cotton crop in Andhra Pradesh.** Osmania.

17. Prasanna Kumari, K. **Changes in cropping patterns in Tenkasi Taluk, Tirunelveli District: A micro analysis.** Madurai.

18. Ramalakshmi, M. **The silk weaving industry of Kancheepuram.** Madurai.

19. Soundarapandian, M. **The impact of national rural employment programme on the eradication of rural poverty in Kamarajar District of Tamil Nadu.** Madurai.

20. Sunitha Anand Raj, D. **An economic analysis of fertiliser use and crop productivity in Andhra Pradesh.** Bangalore. Dr M V Nadkarni, Prof and Head, Ecology Economics Unit, Institute for Social Economic Change, Nagarabhavi, Bangalore.

21. Wadkar, Shankar Shripati. **Changing pattern and trends in agriculture: A study of Radhanagari Taluka of Kolhapur District.** Shivaji. Dr R M Tungare, Chhatrpati Shahu Central Institute of Business Education and Research, Kolhapur.

#### Law

1. Patel, Chhadmi Lal. **Implementation of labour and industrial laws as a means to social justice in India.** Vikram. Dr G C Kasliwal, 24 Sarvodya Nagar, Indore.

#### Public Administration

1. Yadagiri Reddy, M. **Information system for rural development.** Osmania.

#### Education

1. Chotalia, Mahendrakumar Arjan. **A study of the educational thinking of Martin Buber.** Patel. Dr J K Dave, Reader and Head, Post Graduate Department of Education, Sardar Patel University, Vallabh Vidyanagar.

2. Gaikwad, Arun Baburao. **A critical study of impact of teaching colleges of education affiliated to Shivaji University, Kolhapur.** Shivaji. Dr R B Dewasthalee, Department of Education, Shivaji University, Kolhapur.

3. Hota, Ashok Kumar. **A study of the creative, potential achievement motivation and self-concept of urban, rural and tribal adolescents of Western Orissa.** Sambalpur. Dr Mohan Chandra



Naik, Reader (Retd), At/Po, Nialipali, Sundargarh.

4. Manjula, R. **Construction and standardisation of a reading readiness test for pre-school children** Bangalore. Dr D S Shivananda, Reader, Department of Education, Bangalore University, Bangalore.

5. Nakum, Govind G. **A study of the existing value pattern of secondary teacher trainees of Saurashtra.** Saurashtra. Dr M M Patel.

6. Natraj, B. **A critical study of the adult education programme in Gujarat in relation to certain variables.** Patel. Dr I A Vora, Prof, Department of Education, M B Patel College of Education, Sardar Patel University, Vallabh Vidyanagar.

7. Rana, Jayantilal. **A study of the factors affecting climate of elementary school of Kheda District.** Patel. Dr C C Pathak, Principal, M B Patel College of Education, Sardar Patel University, Vallabh Vidyanagar.

8. Ratnam, Kamatham Samuel John. **A study of the administration and educational programmes of Visakhapatnam and Rajahmundry Central Prisons.** Andhra.

9. Singh, Heigrujam Ibotombi. **A study of vocational preferences of high creative and low creative high school tribal pupils in Kohima and Mokokchung Districts, Nagaland.** NEHU. Dr Mathew George, Department of Education, North Eastern Hill University, Shillong.

10. Thomas, Mary Maliakal. **An appraisal of the educational institutions, schools, run by the society Jesus, Mary and Joseph in Andhra Pradesh, India.** Baroda.

11. Tripathy, Prabin Kumar. **Cognitive, functioning, affective adjustment and academic achievement: A study of the tribal children in Orissa.** JNU. Dr Sushila Singhal, Zakir Husain Centre for Educational Studies, Jawaharlal Nehru University, New Delhi.

#### Commerce

1. Acharya, Sanjay. **Madhya Pradesh ke grameen vikas mein Panchvarshiya Yojanantragat rajkiya kshetra ka yogdan, 1961-1985.** H S Gour. Dr O P Agarwal, Department of Commerce, Dr Harisingh Gour Vishwavidyalaya, Sagar.

2. Felix, Folajimi Akindunni. **A study of petroleum industry and its impact on the Nigerian economy: Problems and prospects.** Shivaji. Dr D H Hindocha, Chhatrapati Shahu Central Institute of Business Education and Research, Kolhapur.

3. Gavai, Anand Keshav. **The study of labour absenteeism in textile industry in 1986 in Solapur.** Shivaji. Dr P C Shejawalkar, 108/11, Erandwane, Deccan Gymkhana, Bharati Niwas Colony, Pune.

4. Gopalkrishnan, V. **Working of Tamil Nadu State Lotteries: An exploratory study.** Madurai.

5. Harsolankar, Dinesh D. **Management information system: A comparative case study of selected companies located at Dewas,** M P. Vikram. Dr D S Bothra, Lecturer, Department of Economics, Madhav College, Ujjain.

6. Kulkarni, Prabhakar Govindrao. **Evaluation of law, practices and administration of union direct taxes in India.** Shivaji. Shri R M Tungare, Chhatrapati Shahu Institute of Business Education and Research, Kolhapur.

7. Manickavasagam, V. **Employee morale in Nevveli Lignite Corporation Limited Nevveli.** Madurai.

8. Mohammad Nasir Zamir. **Manpower planning and management practices: A case study of Bharat Heavy Electricals Ltd.** AMU. Prof Ishart H Farooqi, Department of Commerce, Aligarh Muslim University, Aligarh.

9. Shinde, Madan Madhavarao. **The study of city bus service with special reference to Sangali and Miraj.** Shivaji. Dr P C Shejwalkar, 108/11, Erandwane, Deccan Gymkhana, Bharati Niwas Colony, Pune.

10. Thalavia Pillai, N. **Transport Corporations in Tamil Nadu: A study of performance of Pandiyan Roadways Corporation Limited and Cholan Roadways Corporation Limited.** Madurai.

11. Varadarajan, R. **The role of management training and development incorporate sector in Tamil Nadu with special reference to Madras Metropolitan City.** Madurai.

#### Home Science

1. Kolwadkar, Veena Sudhakar. **Study of gifted children in relation to their personality variables, level of adjustment and scholastic achievement.** Nagpur.

2. Tomar, Madhavi. **Study of the effect of food habits on health and nutrition of workers from industrial factories of Bhandara District from Vidarbha Region from Maharashtra State.** Nagpur. Dr P N Chaudhary, Department of Home Science, Nagpur University, Nagpur.

#### Management

1. D'Souza, N P. **Relationship between quality of work life and employee commitment: A comparative study of managers and workers.** TISS. Prof K G Desai, Head, Department of Personnel Management and Industrial Relations, Tata Institute of Social Sciences, Bombay.

2. Kalakar, Kailash Chand. **Accounting and financial management information system in the State Seeds Corporation in Northern India with special reference to Rajasthan Seeds Corporation.** Rajasthan. Dr Sugna Chand Jain, Department of Accountancy and Business Statistics, University of Rajasthan, Jaipur.

3. Rao, P K. **Job involvement: A comparative study of the effects of role change perspective in dual and single earner families.** TISS. Prof K G Desai, Head, Department of Personnel Management and Industrial Relations, Tata Institute of Social Sciences, Bombay.

4. Sarma, Gowaranga Kumar. **Profile of tea garden managers in Assam, 1982-87.** Nagpur. Dr P J Deshmukh, G S College of Commerce, Wardha.

5. Vijay Kumar. **The study of relationships between changing technology and management in a telecommunication organisation.** IIT Delhi. Prof Prithpal Singh, Centre for Management Studies, Indian Institute of Technology, New Delhi.



# EDUCATION NEWS INDEX

A list of select articles and editorials on Education from newspapers received  
in the AIU Library during July 1991

## EDUCATIONAL POLICY & PLANNING

NEGLECTED SECTOR (Editorial). *The Hindustan Times* 9.7.91.

RETROGRADE STEP (Editorial). *The Economic Times* 9.7.91.

SALVAGING EDUCATION (Editorial). *The Hindustan Times* 29.7.91.

## EDUCATIONAL ADMINISTRATION

BEEF UP UGC (Editorial). *Deccan Herald* 5.7.91.

BENIGHTED BIHAR (Editorial). *Indian Express* 19.7.91.

Bose, Pallabh Kumar. Divide. *The Hindustan Times* 13.7.91.

Joseph, A. Accreditation system needs a change. *The Hindu* 30.7.91.

MAJOR CHALLENGE (Editorial). *The Hindu* 29.6.91.

PLUS TWO anomaly (Editorial). *Deccan Herald* 13.7.91.

Venkatasubramanian, K. Case for autonomy. *Indian Express* 23.7.91.

## EDUCATION & POLITICS

Kalra, C S. Inbreeding in the universities. *The Tribune* 17.7.91.

POLITICS OF literacy (Editorial). *The Statesman* 30.7.91.

## CURRICULUM

Bhagyavathy, N E. Expanding role of home science. *The Hindu* 16.7.91.

Ravindran Nair, G. Education for environment. *National Herald* 14.7.91.

## LANGUAGE & LANGUAGE POLICY

Bhagwat, Sharmila. From darkness unto light. *Free Press Journal* 21.7.91.

D'Souza, Sabrina. Is medium the measure? *Free Press Journal* 7.7.91.

ENGLISH UNDER attack (Editorial). *The Hindustan Times* 18.7.91.

Mahanta, K C. Assamese as medium of instruction. *The Assam Tribune* 29.7.91.

Thorat, Pratap. Who cares for vernacular kids! *Free Press Journal* 21.7.91.

## VOCATIONAL EDUCATION

Amrik Singh. Issue in health education : Need for a holistic approach. *The Times of India* 25.7.91.

Irani, Madhavi. Now, it's instant education. *The Times of India* 30.6.91.

Shali Sahib, D. On the portals of PG courses. *Deccan Chronicle* 17.7.91.

## DISTANCE EDUCATION

Kalita, Amarendra. Distance education in India. *The Assam Tribune* 5.7.91.

## TEACHERS & TEACHING

Behal, R K. Teacher's role in modern age. *The Tribune* 28.7.91.

Das, Saroj Kumar. To get out of that feeling of 'burnt out'. *The Hindu* 23.7.91.

Kalita, Bijan Rani. DIET : Teacher education. *The Assam Tribune* 21.7.91.

Lalit Kishore. For a better status for headmasters. *The Hindu* 16.7.91.

Rajappa, Lakshmi. Quantity gains priority. *The Hindu* 9.7.91.

Satyanarayana Rao, P. Crucial components in English teaching. *The Hindu* 9.7.91.

Sharma, Tara Chand. Teacher and society : Need for introspection. *The Tribune* 14.7.91.

## EDUCATIONAL EVALUATION

Atma Ram. Coping with the manace of copying. *The Hindu* 16.7.91.

Chaturvedi, B N. How relevant are university exams? *The Pioneer* 5.7.91.

Meikle, James. Quality control in education. *Free Press Journal* 14.7.91.

Mowla, Shaik. Planning for quality. *The Hindu* 9.7.91.

Narain, S. Mass copying : Remedying the malaise. *The Hindustan Times* 29.7.91.

Parthasarathy, R. Assessing role of universities. *The Hindu* 2.7.91.

Tilak, Sudha G. Evaluation errors. *The Hindu* 16.7.91.

## ECONOMICS OF EDUCATION

Sen Gupta, M. School-industry linkage. *The Hindu* 30.7.91.

## ADULT EDUCATION

INCOMPLETENESS OF literacy drive (Editorial). *Free Press Journal* 21.7.91.

Sivadasan Pillai, K. Fight against illiteracy : Diverse approaches. *The Hindu* 2.7.91.

## ELEMENTARY & SECONDARY EDUCATION

Joshi, Navin Chandra. Education for all is still a far cry. *The Pioneer* 16.7.91.

Nandi, Charles. Class of platform 16. *The Telegraph* 7.7.91.

Rajagopalan, T. Place of punishment. *The Hindu* 2.7.91.

## COMPARATIVE EDUCATION & COUNTRY STUDIES

Mitra, Ananda. College : Here and there. *The Telegraph* 19.7.91.

## INSTITUTIONAL PROFILE

Augustine, Seline D. Oldest educational institution. (St. George School, Madras). *The Hindu* 26.7.91.



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**SAHA INSTITUTE OF NUCLEAR PHYSICS**  
**Sector-I, Block-'AF', Bidhannagar**  
**Calcutta-64.**

**Admission Notice (1991-92)**  
**for Associateship Course in Radiological Physics**

Applications in plain paper giving the date of birth and the details of academic records starting from School Final are invited for admission to one-year Post M.Sc. Associateship Course in Radiological Physics leading to the Associateship Diploma of the Saha Institute of Nuclear Physics, Calcutta. Candidates should have an M.Sc. degree in Physics from a recognized University with a minimum of 55% marks. Candidates appearing in the M.Sc. final examination may also apply for the course. The course is meant for preparing students for career as medical physicists in hospitals but not for research activity in Saha Institute of Nuclear Physics.

Admission will be on the basis of academic record upto M.Sc. and of performance in an interview.

Candidates appearing for the interview will be reimbursed second class railway fare for to-and-fro journey from their normal place of residence in India to Howrah/Sealdah Railway Station and back by the shortest route on production of Railway Receipts/Tickets and will also be paid D.A. for one day only as per rules of the Institute. Each student will be paid a scholarship of Rs. 2200.00 per month for the duration of the course. Very little accommodation for hostel facilities will be available. The session is likely to commence from September, 1991.

Applications complete in all respects should reach the undersigned by **August 26, 1991.**

Fulfilment of minimum requirements does not necessarily mean that the candidate will be called for interview. The decision of the Screening Committee and the Selection Committee is final. No correspondence will be entertained.

**D.N. Bhattacharjee**  
**REGISTRAR**

No. SINP/R/3/91

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**GURUKULA KANGRI VISHWAVIDYALAYA, HARDWAR**  
**(DEEMED UNIVERSITY)**

**UGC JUNIOR RESEARCH FELLOWSHIP 1991-92**  
**NOTIFICATION**

Applications on prescribed form are invited for the award of Junior Research Fellowship in Humanities and Science of Rs. 1800/-p.m. for the first and second years and Rs. 2100/- p.m. for subsequent years with a contingency grant of Rs. 5,000/- per annum from those candidates who have qualified in the National Educational Test conducted by University Grants Commission or Jointly by U.G.C. and CSIR for registration in Ph.D. in the following subjects:-

1. Vedic Literature
2. Sanskrit Literature
3. Hindi Literature
4. Ancient Indian History, Culture and Archaeology
5. Philosophy
6. Psychology
7. English Literature
8. Mathematics
9. Botany
10. Zoology

The J.R.F. so awarded are tenable only at this Vishwa Vidyalaya and the awardee under the scheme is required to do full time research work under the guide approved in the department concerned of this Vishwavidyalaya. The terms and conditions of the award will be as per U.G.C. rules.

The prescribed application form and booklet of Ph.D. rules may be obtained personally on payment of Rs.10/- in cash or by sending Crossed Bank Draft for Rs. 15/- payable to the Registrar, Gurukula Kangri Vishwavidyalaya, Hardwar.

Female candidates need not apply for registration to Ph.D. course in Botany, Zoology and Psychology.

Last date of receipt of applications — **30th September** and after that **31st December, 1991.**

**Dr. Virendra Arora**  
**REGISTRAR**



## PUNJABI UNIVERSITY, PATIALA

Adv.No. 57/Rect./PRO

Applications on the prescribed form are invited for the following posts so as to reach the Deputy Registrar, (Establishment) by 27 August, 1991 :

1. **PROFESSORS** : Forensic Science-1, Commerce-1, Music-1, Punjabi (Regional Centre Bathinda)-1

### SPECIALIZATIONS:

Forensic Science : Forensic Biology and Serology/Forensic Toxicology/Questioned Documents/Forensic Ballistics/Instrumentation.

Commerce: Accounting/Finance/Banking

Music : Instrumental (Sitar)

Preference will be given to those who can play upon Harmonium, Tabla and Violin.

Punjabi (R.C. Bathinda): Fiction Criticism/Fiction

2. **LECTURERS**: Economics-2 (One each for Department of Correspondence Courses and Regional Centre, Bathinda), Computer Science & Applications-3, Hindi-2, Anthropological Linguistics-1, Music (Vocal)-1, Library & Information Science-1, Commerce-1

**Qualifications for Computer Science & Applications:** M.Phil/M.Tech. OR M.S. (Two Years' Course) OR MCA with one year experience OR M.E. (Part-time) with two years' experience.

### SPECIALIZATIONS:

Hindi: First: Mediaeval Literature/Linguistics

Second:Open

Anthropological/Linguistics: Psycholinguistics/Semiotics/Historical Linguistics.

Music : Northern Indian Classical Music (Vocal)

Commerce : Accounting with any of the Quantitative, Computer, Business Law OR Economics.

Library & Information Science : Desirable

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Economics (CC) : Quantitative Methods in Economics; OR Political Economy of Development; OR Economics of Development and Planning/Women Studies/Agriculture.

### NOTE:-

1. These posts carry UGC pay scales. Only specialisations/desirable qualifications have been given in this advertisement. Detailed qualifications as prescribed by the UGC/Syndicate will be supplied along with the application form.
2. Candidates must have passed Punjabi up to Matriculation standard or Punjabi Prabodh or Punjabi Praveshika examination. However, if suitable candidates with requisite qualifications in Punjabi are not available, the selected candidates shall have to pass any of the above mentioned examinations within two years.
3. Incomplete applications and those received after the last date, shall not be entertained.
4. The eligibility of every candidate will be determined on the basis of the qualifications acquired by him up to the last

date fixed for receipt of the applications.

5. It is not obligatory to call every candidate for interview who possesses the essential qualifications.

APPLICATION FORMS can be obtained from the Head, Publication Bureau, Punjabi University, Patiala 147 002 on payment of Rs.15/- at the Counter OR by sending an IPO for Rs. 15/- in favour of the Registrar, along with a self-addressed envelope (25 x 10 cms.) affixed with postage stamps worth Rs.10/- and indicating on it the name of the post applied for.

REGISTRAR



## KAKATIYA UNIVERSITY

SCHOOL OF DISTANT LEARNING AND

CONTINUING EDUCATION, WARANGAL

No. 427/SDLCE/KU/91

Date: 12.07.1991

### ADMISSION NOTIFICATION

Applications are invited for the following courses during the year 1991-1992.

#### I. LIBERAL EDUCATION SYSTEM

1. B.A.  
(Telugu Medium only)

No formal qualification is required. Must have attained 20 years of age on or before 08.09.1991 and qualified in the eligibility test, scheduled to held on 08-09-1991.

#### II. DISTANCE EDUCATION STREAM

- | Course   | Eligibility   |
|--|---|
| 1. Certificate course in Library and Information Sciences (CLISc.)   | Merit in Intermediate or its equivalent examination.  |
| 2. B.A.(Telugu Medium only)  | Intermediate or its equivalent examination.   |
| 3. Bachelor Degree Course in Library and Information Science (BLISc.)  | Any recognised Degree and Merit obtained in the Entrance examination, scheduled to be held on 01-09-1991. |
| 4. Bachelor Degree in General Laws (BGL)   | Any recognised Degree.  |
| 5. M.A. Mathematics, Telugu, English, Economics, Public Administration, Political Science and M.Sc., Mathematics | Recognised Degree with concerned subject.   |
| 6. M.Com.  | Recognised Degree with concerned subject.   |
| 7. Diploma in Personnel Management and Industrial Relations (DPMIR)  | Any recognised Degree   |

#### III. REGULAR STREAM

8. P.G. Diploma in Computer Applications (PGDCA)

Any recognised Degree with Mathematics as one of the subjects and merit obtained in the Entrance Examination, scheduled to be held on 01.09.1991.

Application forms for all the above courses can be had on payment of fee of Rs.10/- (Rs. 20/- for out station candidates and the Application Form will be sent to them by Registered Post) through a CHALLAN (Available at SCHOOL OF DISTANT LEARNING AND CONTINUING EDUCATION), KAKATIYA UNIVERSITY, or through DEMAND DRAFT DRAWN IN FAVOUR OF THE "REGISTRAR, SCHOOL OF DISTANT LEARNING AND CONTINUING EDUCATION, KAKATIYA UNIVERSITY, WARANGAL" payable at the said Bank, drawn from any Nationalised Bank. MONEY ORDERS AND POSTAL ORDERS WILL NOT BE ACCEPTED. Candidates should submit separate application forms for each course.

The last date for sale and receiving of filled in applications is 26.08-1991 at the Office of Director, School of Distant Learning and Continuing Education, Kakatiya University, Warangal-506 009. Incomplete applications or applications received after the stipulated date will be summarily rejected.

**Note:** The entrance examination for B.L.I.Sc and D.C.A. courses will be held on 01.09.1991 at HUMANITIES BUILDING, KAKATIYA UNIVERSITY CAMPUS, WARANGAL. The eligibility test for admission in to B.A. Liberal Education System will be conducted on 08-09-1991 at various centres specified. Detailed information pertaining to the courses, study centres etc. will be supplied along with the application form.

Dr. K. Murali Manohar  
DIRECTOR





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Symbol of the sacrifices made  
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and poor, men and women, old  
and young - who fought for the  
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# SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES & TECHNOLOGY THIRUVANANTHAPURAM

(An Institute of National Importance Under the Ministry of Science & Technology, Government of India)

## ADMISSION NOTICE

### POST DOCTORAL PROGRAMMES

(Academic Session commencing : January 1992)

Applications are invited from qualified Indian Nationals for admission to the various Post Doctoral Programmes commencing on January 1st 1992. Prescribed forms for Application and Prospectus, which are non-transferable, can be obtained from the Institute on a written request accompanied by a Bank Draft for Rs. 25/-, drawn in favour of Sree Chitra Tirunal Institute for Medical Sciences & Technology. The request should contain the following information.

1. Name and address of the candidate in capitals. 2. Programme to which admission is sought. 3. Particulars of Demand Draft (Amount, Bank Branch, DD No. and the date of issue).

Programmes offered	Course duration	No. of Seats
DM Cardiology	3 Years	Four
DM Neurology	3 Years	Two
M.Ch Cardiovascular & Thoracic Surgery	3 Years	Three
M.Ch Neurosurgery	3 Years	Three
Post Doctoral Certificate Course in:		
a. Cardiovascular & Neuro-Surgical Anesthesiology	1 Year	Six
b. Cardiovascular & Neuro Radiology	1 Year	Two

Minimum educational qualification for entry.

**DM Programmes :** MD in General Medicine or Pediatrics or equivalent qualifications.

Note: (i) Candidates with MD in Psychiatry with a minimum of six months residency posting in General Medicine and Neurology during the said Course can also apply for DM Neurology.

(ii) One seat in MD Cardiology is reserved for candidates with MD Paediatrics or equivalent qualification.

**M.Ch Programmes :** M.S. in General Surgery or equivalent qualification.

**Post Doctoral Certificate Course :** MD/MS Degree in Anaesthesiology/Diagnostic Radiology or equivalent qualification.

**NOTE:** All the aforesaid qualifications should have been obtained from an Indian University recognised by the Institute or from the National Board of Examinations or from any other Board recognised by the Institute.

Only those who satisfy the minimum qualifications prescribed are advised to apply for admission. Those who expect to qualify before the date of selection may forward their applications by the closing date prescribed. However, they will not be called for the selection test unless evidence of having obtained the necessary qualification is produced latest by **9th November 1991**.

Upper age limit (as on 1st January 1992) is 35 years, relaxable by 5 years for qualified Ex-service Personnel, SC/ST and sponsored candidates.

Candidates with more than two failures in the University or equivalent examinations are not eligible for admission. Admission to the programmes will be based on the candidates' previous academic record and their performance in the **Selection Tests** to be held at the Institute on **29th and 30th of November 1991**.

Those selected will be paid emoluments as fixed by the Institute and will be provided with accommodation as per Institute's rules and regulations.

#### CLOSING DATES

Last date for issue of Forms by Post	:	1st October 1991
Last date for receipt of completed Form	:	8th October 1991

Apply to: The Registrar,  
Sree Chitra Tirunal Institute for Medical Sciences & Thiruvananthapuram,  
Kerala- 695 011

Requests/Applications with incomplete information or received beyond the closing dates, are liable to be rejected.

Details of qualifications, selection procedure, sponsorship, scholarship etc. will be given in the Prospectus for the year 1991.

DIRECTOR

No. SCTIMST/Acad/132/91

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## IN THIS ISSUE

Education for Development	2
Postgraduate Course in Materials Chemistry	5
Educational Institutions of the Future	9

### Convocation

University of Kalyani, Kalyani	11
-----------------------------------	----

### Campus News

Refresher Course in Commerce	15
Literacy Rate	16
Astronomical Data Centre	16
Seminar on Physical Education and Sports	17

### Agriculture

National Workshop on Dairy Animal Management	18
Nursery Practices and Forest Renewal	18

### News from UGC

Countrywide Classroom Programme	18
------------------------------------	----

### News from Abroad

Distance Education for the 21st Century	20
France : Higher Allocation for Education & Research	20

Additions to AIU Library	22
Theses of the Month	23
Classified Advertisements	C/3

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Editor :

SUTINDER SINGH

# Reflections on the Role of the University

S. Bhaskaran\*

Since independence there has been a rapid expansion of educational institutions of higher learning and of research institutions. The crucial question at this juncture is whether this expansion in the institutions of higher learning has kept pace with the social and technological change that has taken place in the last few decades. In the past, the University has been an institution in a fairly static society. There were long lags between theory and practice. Then the lag was measured in generations. Now it is measured in years. For instance, semiconductivity was discovered in 1913 and its application to the transistor had to wait until 1948. But, the discovery of the structure of the RNA and its application to bio-engineering took only 10 years.

The talent for original and creative research is scarce and does not increase proportionately with the growth of academic institutions. Why have the Boses and Ramans not multiplied with the growth of the institutions and educated population? Growing specialization and growing emphasis on elegant techniques are being bought at the expense of realism and relevance to the policy questions of the day. The need of the hour, in the present socio-political-economic context of the society, is different. Emphasis on pure research must give way to research on relevant areas.

Moreover, in view of the increasing specialisation of research and scholarship, we need more communication between scholars so that we know what is happening in neighbouring disciplines. Communication is also needed not only between the specialists, but also between the profession and a wider lay public. Such improved communication should lead to feedback from the wider public to the researchers, from the practitioners and policy makers to the scholars, from the doers to the thinkers.

This two way traffic could contribute to meeting the needs of policy makers. The scholars should bridge the gap between research and policy. A more practical orientation of research would mean a somewhat different orientation of the direction and content of scholarship. Scholars from different disciplines should get together and use expertise of their field for the solution of practical problems such as housing, pollution, family planning, reservation etc. At a deeper level, it means incorporating the variables from other disciplines into the concepts, theories, and models of, say, economics. The new production function should not only include land, labour and physical capital, but also other forms of capital, levels of education and health, distance from town, political variables, kinship relationships etc., and the cumulative experiences of the past. The main point to remember is that the universe is not divided along the same lines as the University, and if we wish to understand it, we have to redraw the demarcation lines.

\*Professor and Head, Department of Political Science,  
Annmalai University, Annamalainagar - 608 002.



# Education for Development

## An Analysis from Economic Perspective

P.K.Gupta\*

### The Context

Since the world war II, development has captured much attention from social thinkers and social scientists all over the world. All the poor nations of the world today are development minded as they believe that the development of their nation only can solve the problems of human misery, degradation and discontent. The concept of education for development is the result of this sort of thinking. Every nation now plans education from developmental perspective. In our country, the importance of education for development was recognized way back in 1960's by Indian Education Commission and its report was titled as Education and National Development.

Though the poor nations are showing their concern to education for development, they are still doubtful of its exact role. "Does education contribute to the development of a nation, and if yes, then how? Which level and type of education contribute more to development? Can education be planned in such a way that it can accelerate the process of development? are some of the questions which are being debated these days all over the world. The present paper is an attempt to answer some such questions with special reference to education's contribution to economic development and its policy implications.

### What is Education for Development?

The concept of development has undergone evolutionary changes over a period of time. What was termed in 19th century as 'progress' is now considered as 'development' in 20th century. Even today different thinkers view the term development differently and it is still highly controversial. While economists consider development as a process of economic growth, sociologists take it as the process of ushering into existence a new social order. Whatever may be the views of different thinkers, there seems to be almost a consensus that development is concerned with the overall prosperity and welfare of the people. From this point of view, development is characterized by increase in the basic facilities for the masses, rise in the standard of

their living and widening of the mental horizon of the people. This objective of development can be achieved, if there is increase in production and other capital resources, development of means of transportation and communication, and improvement in the standards of education and health. Though, natural resources and physical capital play a vital role in bringing about this development, these two alone do not determine it.

To bring about development, optimum utilization of physical capital and maximum exploitation of natural resources is very necessary and this is possible when the labour force which operate the production system is trained and educated. Thus, education becomes a necessary condition for development, if not a sufficient one. It is in this background that we talk about education for development. This concept raises certain questions like what qualities of mind and character enable people to play effective roles in the process of development?, what type of education and which level of education should be emphasised most at various levels of development?, and what changes can be brought about in the educational system so that the process of development is accelerated? If we can find the answers to these questions in the context of our prevailing situation and then plan education accordingly, that will be education for development in the real sense.

### Contribution of Education to Economic Development

The contribution of education in the process of development has been a matter of debate among development planners since long. Generally, it is believed that education is a social service and its contribution in economic development is marginal. This view is, however, losing ground and there is now recognition that education is an investment which brings returns in terms of the increase in the Gross National Product (GNP) or per capita income. From this point of view education is an integral part of the developmental process.

It is now argued that education contributes to economic development by increasing the productivity of the labour force, which in turn, raises the GNP or per capita income of the country, an important indicator of economic growth. Education does so by increasing the amount of knowledge, training the mind, developing

\*Head, Deptt. of Education, North Eastern Hill University, Nagaland Campus, Kohima.



the required skills and inculcating the desired values and attitudes among the people of a society. Thus, education affects the economic development by preparing the people for their effective participation in the process of economic growth.

Research studies have revealed the following facts with regard to the contribution of education to economic development :

(i) As the percentage of literacy grows for a country, rate of economic growth also increases. The countries which have the literacy level below 40%, are found poor while countries which have crossed the literacy level of about 70% are richer. Inference is that forty percent literacy is the threshold level to cross the economic barrier (Bowman and Anderson, 1950).

(ii) There is a positive correlation between the composite index of human resource development and GNP and per capita income (Harbison and Meyers, 1964).

(iii) The economic growth depends on the development of formal schooling. (Easterlin, 1981). The workers with longer periods of schooling are found more productive (Strumline, 1924).

The above findings confirm the fact that education contributes to economic development. It is not argued here that development cannot take place without education. Infact, there are evidences that some amount of development takes place even without education. It is because that education is not the sole factor which determines development. There are hosts of other factors like natural resources and capital investment, better management system and personal abilities and achievement motivation of the labour force. Education at best act as a catalyst. If the essential ingredients for development are fed then education can accelerate the rate of development.

#### **Present Position of Education and Development in India**

Impressed with the empirical data of developed countries which speaks very high about the relationship between education and development, the under-developed countries concentrated all their efforts to expand their educational system in the last four decades with the hope that it will result in the development of their nation. As a result, huge expansion of educational facilities was seen in these countries including India. Our country has today a network of 6.85 lakh recognized educational institutions at primary and upper primary levels, 68,000 at lower and higher secondary level, more than 190 universities and 7000 colleges accounting for 2 lakh teachers and 40 lakhs students,

2.80 lakh non-formal education centres and 2.80 lakhs adult education centres. The system as such is perhaps one of the largest in the world. But has this expansion contributed to economic growth? It is doubtful to say with confidence that education has contributed to economic development in India as per our expectations in spite of this vast educational expansion.

Economic data reveals that the growth of GNP over the past 40 years of planning has increased at the rate 3.5% per annum only while it should have been much higher with such educational expansion. As a result, a considerable population of our country is still living in poverty without basic facilities available to them, not to speak of increase in the standard of their living. This by no means is development. As compared to the advanced countries education has not contributed much to our country's economy.

#### **Shortcomings of Education System in Contributing to Development**

What is wrong with our educational system? This is a pertinent question. There seem to be the following shortcomings of our education system :

(i) Though this educational expansion appears to be quite impressive, it still falls short of demand. The educational data reveals that for all levels viz. primary, middle, secondary and higher levels, the rate of growth of educational facilities such as schools and teachers have been lower than that of enrolment at these levels. For such a large population of about 84 crores (as per the provisional figure of 1991 census), the present educational expansion cannot be said to be adequate.

(ii) There have been imbalances also in this educational expansion. Over the years, higher education has grown relatively more than other levels of education. It is now a well established fact that higher education is less contributive and much costly as compared to primary and secondary education. The statistics indicate that instead of one graduate, as many as 66 students with primary level of education could have been produced in 1975.

(iii) Vocational education could not grow in the past and all expansion has been in general education. It is the vocational education which contributes more to economic development than general education.

(iv) Whatever expansion of education has taken place it is mostly quantitative and not qualitative. It has resulted in the poor quality of education. The educated labour force produced by the system is not adequately equipped with the kind of knowledge, skills and values as are required by the nation to boost its



economy.

(v) In our country, there is a large scale of unemployment. The educational system has prepared the people by spending heavy cost but they are not contributing to development due to unemployment. Not only this, we have the problem of under-employment and mis-employment also. People are not placed in the right kind of jobs for which they have been educated and trained. As a result, they are not as productive as expected. But then for this the total system is more to blame than education.

(vi) In spite of the massive effort, our educational system could not eradicate illiteracy. We still have 48% people illiterate in our country (as per the provisional figure of census 1991). It is this illiterate population which constitutes the major portion of the labour force. Had this huge educational system made them literate by this time, the difference in development could have been tremendous.

(vii) Lastly, there is a large section of our population comprising specially of rural, tribal, backward classes and women which have not been taken proper care of and are thus undeveloped which otherwise could have contributed to development to a great extent.

These shortcomings of the educational system are largely responsible for holding down the rate of economic growth of the country, indicating thereby the failure of our educational system to contribute to production and in turn to the process of development.

#### **Reasons for the Failure of Educational System**

The failure of our education to contribute to economic development may be attributed mainly to the following two reasons :

##### **(i) *Lack of Proper Linkage Between Education and Development***

Inability of the educational system to contribute to economic development as per expectations shows that no serious efforts were made in the past to properly link education with the developmental needs of the country and the system was allowed to grow blindly without any clear direction. This may be either due to non-planning or wrong kind of planning in education.

##### **(ii) *Lack of Resources***

To generate adequate education facilities of required quantum and to provide quality education, much financial investment has not been made in the past in spite of the fact that we know that investment in education yields profitable returns in the form of development. While India spent 7% of her plan budget on education during the first five year plan, that per-

centage was reduced to 3.3% during the seventh five year plan which ended in March 1991. In terms of GNP, even though the percentage of GNP spent on education increased from 1.2% in 1950-51 to 3.9% in 1986-87, it is still far below the general target of at least 6%. It is estimated that if the goal of education for all by the year 2000 is to be achieved elementary education alone would require about Rs 80,000 crores in the next 10 years.

#### **Policy Implications**

Number of research studies have been conducted in India and abroad whose findings throw considerable light on the direction of return to education for development. These findings may very well become the policy base in formulating the future education from developmental perspective. Some of them are discussed here.

(i) As level of literacy is directly related to the level of development, top most priority should be given to eradicate illiteracy from the country. Though we have achieved 52% literacy level as we begin the present year 1991, there is a long way to go.

(ii) Rate of return (whether social or private) to education for economic growth decreases as the level of education increases. In other words rate of return to primary education is higher than rate of return to secondary education, which in turn, is higher than that to higher education. Thus returns to primary education are highest among all educational levels, thereby indicating that primary education contributes maximum to economic development. The above facts suggest that the first priority should be given to primary education as compared to other levels of education. Unfortunately, our primary education is the weakest sector in the educational ladder. The resources allocated to primary education have also declined over the plan periods. Unless enough resources are not provided situation cannot improve.

(iii) Vocational education has been found to yield better returns as compared to general education. This clearly shows the importance of vocational education in contributing to economic development. But it does not mean that we go on opening more vocational colleges blindly. There can as easily be a surplus of vocational graduates as there can be that of arts graduates. In the name of vocationalization of education, we have already produced surplus engineers and many of them are unemployed. It is to be noted that vocational education is much costlier than general education and so it must be planned very carefully. Vocational education should be expanded in those areas where there is shortage of manpower. Further, it is more needed at the level of secondary education than higher education.

*(Contd. on page 8)*



# Postgraduate Course in Materials Chemistry

## A Report

S.M. Ashraf\*

Materials studies of late have assumed considerable significance due to their direct application in advance technologies. The advancement in the production of nuclear energy, spectacular progress in space technology, rapid advancement in the field of information storage, communication and strategic armaments and in many other areas of high technology have been due to the development of newer and novel materials and the understanding of their structure-property relationships. As an outcome of this, materials science has emerged as a significant discipline. Courses of studies of various levels in materials science have been developed and its teaching has been strengthened and widely instituted. Materials science has a substantial interface with Chemistry. Serious effort, however, has not been made particularly in India and elsewhere also to develop a course in Chemistry pertaining to materials, to be called materials chemistry, on the same lines as materials science. The definition of materials and materials science as given by the Committee on the Survey of Materials Science and Engineering (COSMAT), National Academy of Science, U.S.A. could be taken as a guide for defining the nature and scope of materials chemistry and in devising a suitable curriculum of this discipline for pedagogical purposes.

COSMAT defines materials science as "the discipline concerned with the generation and application of knowledge relating to the composition, structure and processing of materials to their properties and uses".<sup>1</sup> It further observes that "the materials are in fact the substances having properties which make them useful in machines, structures and products".<sup>2</sup> Like materials science, materials chemistry will, therefore, address itself to the studies of materials which find technological application in devices, artefacts, machines and structures. Such materials retain their physical state and normally do not undergo chemical transformation during use. Materials like drugs, fuels, foods and raw materials for chemical industries which undergo chemical transformation during their use would not fall in the domain of materials chemistry. But materials like metals, alloys, ceramics and polymers that do not undergo

chemical change during their application in various devices, machines and structures would be the subject of materials chemistry. Likewise magnetic, optical, conducting, semiconducting and non-conducting substances and so on which have far reaching technological applications would fall within the realm of the materials chemistry.

It is interesting to note that most such substances are found in the solid state as in this state of aggregation they find maximum application. In materials chemistry a major area of studies would, therefore, pertain to the solid state. However, it would extend itself to liquid and gaseous states in which states substances also exist conforming to the definition of materials.

Materials chemistry true to the character of chemistry would incorporate the study of structure of materials in all details and would seek to establish a relationship between the structure and property of the substances. All levels of structure, perfect crystalline, polycrystalline, defect, electronic and so on will be studied under this subdiscipline. It would also aim at developing new processes and techniques to obtain materials in a particular form or structural configuration to be ultimately used in a new generation of, or in an entirely new device, artefact, equipment or machine. Materials chemistry will therefore pertain to the study of the minutest feature of materials and indepth study of their properties and processing. It will incorporate aspects of all the major branches of chemistry, inorganic, physical, solid state, analytical and organic as applied to electrical, electronic, magnetic, optical and structural materials. The search for super conductors, conducting polymers, high performance ceramics, non-linear optical materials, advanced super alloys, super plastic metals, catalysts, super polymers and so on and investigations in surfaces and interfaces, epitaxy and heteroepitaxy, thin films, biocompatibility, low temperature processing of electronic materials and so on underscore the scope of materials chemistry.

### Materials Chemistry Course

The foregoing clearly highlights the significance of materials chemistry in the study and development of materials needed for technological advancement. The

\*Department of Chemistry, Jamia Millia Islamia,  
New Delhi-110025



strengthening of this discipline in chemistry departments should, therefore, be given appropriate attention. A survey<sup>3</sup> of the courses offered by the departments of Chemistry of Indian Universities has shown that none of them is conducting a course in materials chemistry. We have attempted to develop such a course at Jamia Millia Islamia, New Delhi, and introduced it in the final year of M.Sc. (Chemistry) in 1986. The Course is planned to be of a duration of one academic year following a one year Course in physical, organic and inorganic Chemistry in M.Sc. (Previous). The latter has the same standard as obtains in the leading Indian Universities and hence no account of this part of the Course is being provided.

The materials chemistry course in M.Sc. (Final) comprises six theory papers alongwith the laboratory work. The teaching of each paper is carried over one academic session of net seven months period with three lectures per week for each paper and each lecture being of forty five minutes duration. The laboratory course is run fifteen hours per week for the same period. Examination is taken in theory papers as well as in laboratory course. A small project in laboratory course is being introduced from this academic session.

### Logic of the Course Content

'Materials' are mainly used in the solid state in the form of single crystals, thin films, glass and also in polycrystalline forms; hence the structure and preparative aspects of all these forms find place in the course. Imperfections and defects in the structure modify the properties of the materials in a significant manner. So do solid solutions. Similarly under conditions of use materials corrode, undergo stress fatigue and produce fracture and flaws; related to these features and also many others is diffusion in materials. These aspects form a fair portion of the course. Variations of temperature and pressure bring about phase transitions in materials modifying their properties. Also, in the preparation of materials as well as in the studies of occurrence and stability of different phases with composition and temperature phase equilibria investigations are central to the materials studies. Solidification and solid solution investigations are closely related to the phase equilibria studies. These features have been given suitable treatment.

Physical properties of the materials determine their applications in devices and artefacts. Study of the physical properties such as electrical conduction, insulation, semiconduction, piezo and ferroelectricity, magnetic properties, super conductivity and optical properties — dispersion, absorption, double refraction, photoluminescence, photoconduction, lasers and so on

make up a significant part of the course. Quantum theories of solids especially free electron gas and band theories are the cardinal tools of materials studies and find fair coverage. Various techniques are used for the determination of the crystal structures and defects in materials, most important are single crystal and powder X-ray diffractions and electron and neutron diffractions. Transmission and scanning electron microscopies are foremost techniques for the direct imaging of the structural features of the materials. X-ray electron spectroscopies are increasingly being used in the elucidation of fine local structures of materials. Laser-Raman and infra red spectroscopies have been used for the identification of phases in materials. MAS - NMR has been successfully used in highlighting important features of aluminosilicate structures and atomic migration in materials on heating. DTA and DSC have been used for investigations of polymorphism, phase transitions, glass transition temperature and in the phase diagram studies. The treatment of these techniques constitute a fair part of the course.

Polymers, ceramics, glass and alloys are well known classes of materials. Organic materials, apart from polymers, which are finding increasing applications are liquid crystals and organic conducting materials. These materials systems find detailed coverage in the course.

### Laboratory Course

The laboratory course has been based upon the techniques and methods of materials investigation and characterisation. It comprises experiments in growing of single crystals, their morphological and optical characterisation, investigations of electrical, semi-conducting, magnetic and ferroelectric properties of typical materials; studies in phase transformation and solid solution formation; microscopic examination of metals and alloys for various structural features, phase equilibria and corrosion studies of some alloys, preparation of typical magnetic materials by solid state reactions and their identification by powder X-ray diffraction; preparation of liquid crystals and study of their transition temperature and optical properties; preparation of polymers by different methods and their characterisation, preparation of a few glasses and study of their optical and mechanical properties.

### Details of the Papers

#### Paper-I: Crystal Structure, Preparation and Characterisation of Materials

- (i) *Crystal Structure*: Lattice planes and direction, symmetry elements, Bravais lattices, space lattices point group characteristics of crystal sys-



tems, space group characteristics of a few lattice types, crystal chemistry of rock salt, fluorite, anti-fluorite, sphalerite, wurtzite, nickel arsenids, rutile, cadmium chloride, cadmium iodide and silicate structures.

- (ii) *Preparation of Materials*: Growing of single crystals, preparation of thin films; preparation of materials by solid state reactions, vapour phase transport, electrochemical and other methods.
- (iii) *Characterisation of Materials*: Elucidation — of crystal structure, local order and defects by physical techniques — X-ray diffractions, electron and neutron diffractions; electron and optical microscopies; X-ray and electron spectroscopies; n.m.r., i.r., visible and laser-Raman spectroscopies; D.T.A. and T.G.A.

#### **Paper-II: Defects, Deformation and Phase Transformation of Materials**

- (i) *Crystal Defects*: Stoichiometric and non-stoichiometric defects, extended defects, motion of dislocation, plastic and elastic deformation, slip and multiple slips.
- (ii) *Diffusion in Materials*: Mechanism, Fick's laws, Kirkendall effect, diffusion controlled reactions.
- (iii) *Phase Transformation*: Thermodynamics and kinetics, types, time-temperature-transformation diagram, relations between crystal structure, martensitic and order — disorder transitions.
- (iv) *Phase Equilibria*: (Phase analysis and microstructural aspects also). Phase equilibria diagrams of binary systems with formation of solid solution, simple eutectic, peritectic, compound formation, eutectoid etc., detailed study of Fe - C system, non-equilibrium solidification and zone refining.
- (v) *Deterioration of Materials*: Gaseous corrosion, electro-chemical corrosion, corrosion prevention.

#### **Paper-III: Physical Properties of Materials**

- (i) *Electronic States in Solids*: Electron gas approximation, electronic density states, band structures of metals, insulators and semiconductors, electronic impurity states in semiconductors.
- (ii) *Electrical Properties*: Electron drift, relaxation times, electrical conductivity of non degenerate and degenerate gases electrical con-

ductivity of pure metals, intrinsic and extrinsic conductivity of semiconductors, dielectric behaviour, piezo-electricity, ferroelectricity, thermoelectric effects.

- (iii) *Magnetic Properties*: Ferromagnetism, anti-ferromagnetism and ferromagnetism, Hall effect, super conducting state.
- (iv) *Optical Properties*: Dispersion of Light, absorption of light, excitons, photoconductivity, photoluminescence and lasers.

#### **Paper - IV: Polymers**

- (i) *Polymer Preparation*: Various methods.
- (ii) *Polymer Solution*: Thermodynamics of polymer solution, Flory-Huggins theory, Flory-Krigbaum theory.
- (iii) *Polymer Characterisation*: Molar mass determinations, chain dimension and structures, characterisation by infrared, X-ray diffraction and thermal analyses.
- (iv) *Crystalline State*: Mechanism of crystallisation, kinetics of crystallisation, morphology of crystalline state.
- (v) *Amorphous State*: Characteristics, region of viscoelastic behaviour, temperature dependence of  $n$ , glass transition region, measurement of  $T_g$ .
- (vi) *Structure-Property Relation*: Importance of  $T_m$  and  $T_g$ , control of  $T_m$  and  $T_g$ , intermolecular bonding, chain stiffness, relation between  $T_m$  and  $T_g$ , random copolymers.

#### **Paper-V: Glass, Ceramics, and Alloys**

- (i) *Glass*: Glass formation — structural aspects, thermodynamics and kinetics, phase separation and liquid immiscibility in glass — structural theories, thermodynamics, mechanism of phase separation, viscosity, important types of glasses — their preparation and characteristics.
- (ii) *Ceramics*: Silicate structures, phase equilibria of ceramics, non equilibrium phases, metastable crystalline phases, ceramic processes, grain growth, sintering and vitrification; microstructures of ceramics, traditional and modern ceramics, technical application.
- (iii) *Alloys*: Structure of alloys, alloy formation, order — disorder phenomenon, precipitation, eutectoid transformation, typical ferrous alloys — principle alloying elements, structural constituents, classification, general charac-



teristics of individual alloys, non-ferrous alloys.

#### Paper-VI: Organic Materials

- (i) *Organic Conductors*: Theory of conduction in charge transfer salts and polymers, electronically and ironically conducting polymers, physical properties of the charge transfer salt and polymer conductors, preparation of conducting polymers, technical applications.
- (ii) *Liquid Crystals*: Dual behaviour, general molecular feature, orientational distribution function and order parameter; categories, classes and phases — their structures and characteristics; polymer liquid crystals, physical properties, technical applications.
- (iii) *Biomedical Materials*: General aspects, characteristics, categories, performance, standards; biocompatibility, general criteria; tissue system response to biomaterials, effect of tissue system — corrosion, failure, standard tests for biocompatibility, implant devices in use, their functions and biomedical use.

#### Experience of the Course

Four batches of students have since graduated. We have found that the course has aroused sufficient interest and appreciation in students for materials studies and application. The students have shown keen interest in various domains of the course and in having more experiments of different classes of materials. They have found employment in industrial laboratories. Some of them have further taken up M.Tech. courses in polymer, solid state and materials technologies. We feel that the Course has met with desirable success.

*[The author expresses his sincere thanks to his colleagues Prof. S.I. Ali, Dr Shakil Ahmad, Dr Mukhtar Ahmad Khan and Dr Sharif Ahmad of the Department of Chemistry, Jamia Millia Islamia for useful discussion and suggestions in the development of this Course. They also have been participating in teaching of this Course.]*

#### References

1. Committee on the Survey of Materials Science and Engineering, 1974. Quoted in the Encyclopaedia of Materials Science; Bever, M.B., Ed. in Chief; Pergamon; Oxford, 1986, p.XI
2. Reference (1); p. XV
3. Universities Hnadbook 1985-86. Association of Indian Universities; New Delhi, 1986.

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## Education for Development

(Contd. from page 4)

(iv) The contribution of higher education is there but it is lowest as compared to primary and secondary education. It is probably low because the social cost of higher education is very high and the share of manpower at this level in the working force is quite low as compared to other sectors of education. The only way out to increase the productivity of higher education may be that its social cost is reduced. This can be done by increasing the private cost of higher education as there are more private returns than the social returns.

Here it is to be mentioned that the importance of higher education can by no means be underestimated because of its low return as stated. As such it is very difficult to measure the returns from higher education because its contribution is not direct. Higher education mainly contributes through the generation of new ideas as a result of research and innovation and it would be inappropriate to apply cost benefit analysis for such a contribution. Only solution we may have is that the higher education should be restricted for higher brains only so that the cost is reduced. Above all higher education has to get exclusive importance as it prepares the people to develop further manpower for different sectors of economy.

(v) The private returns are in excess of social returns to education. This is more true for higher education. It

is because of this reason that education gets high priority for the individual and not for policy makers of the society. But then society will have to bear this because education is not having economic function alone, it is social service also.

#### Conclusion

As education and development are inter-related, there is an urgent need to carefully plan education from the perspective of development. Educational planning has to be integrated with economic planning for the development of the country. The strategy of educational planning and resource allocation must take into account the strength of various levels and types of education in relation to their contribution to economic development, the manpower needs of the country as well as other factors of educational development which affect the overall development of the country.

Finally education for economic development must be planned with due regard for its social consequences. Whatever education we plan it must be socially responsible. Economic development without appreciable social order is of no value. In sum, education for development should be more than economic development and it should be planned for total development where economic development finds its appropriate place.



# Educational Institutions of the Future

S.L. Mahajan\*

India is, and has always been, at the forefront of research and development in the field of educational technology. The educational institutions of the future are destined to be located not in over populated, multi-floored buildings but in the homes. This does not mean that educational institutions will disappear. They will remain as the nerve centres of each university, collating the various inputs from students and keeping the educational institutions on their correct business path.

The real benefits of the educational institutions of the future will be for students, especially those who frequently travel for academic achievement or those who could work effectively from their own homes.

## Changing Scenario

With the development in the communications technology and computers appearing on the scene, automation of educational institutions underwent dramatic changes. The introduction of computer boosted the efficiency of educational institutions to a very high degree. The real breakthrough came with the appearance of low-cost personal computers with tremendous computing power and highly sophisticated software packages for every educational application like word processing, financial accounting, database management, computerized evaluation, communication networking etc.

Vital data could be easily stored and retrieved very fast. Access to these data by several users situated in different places, combined with fast communications, will change the functioning of the educational institutions increasing their efficiency. Computer based systems like electronic mail, electronic filing and retrieval, electronic printing and interfacing information from different systems will be common in educational institutions. Advances in digital equipment design, large scale integration, distributed processing and programming languages will provide nationwide educational institutions' networks with communication capacity worldwide.

Modern educational institutions and universities will consist of keyboard terminals, video display units, electronic word processors, telephone modems, inex-

*\*School of Education, Devi Ahilya Vishwavidyalaya, Indore -452 001 (M.P.).*

pensive copiers, electronic desk top mail networks, teleprinters, facsimile, telex, etc. Paper files will be replaced by microfilm/fiche and the laser disc. Information will be transmitted around the world by means of fibre optic cables and microwave links as well as an ever-increasing number of satellites.

Vastly increased transmission speeds would allow huge volumes of data to be sent. Universities will use this technology to create a network of its educational institutions which could capture and retain data at source and enable all educational institutions to share the data.

The systems/equipment which will help in increasing efficiency of the educational institutions and universities will be Wordprocessors, PABX, Facsimile, Electronic mail, Teleconferencing, Video conferencing, Local area networks and optical discs.

## Hardware for the Home Educational Institute

With commuting becoming so time consuming, students will be able to operate from home for three days of the week, for example, and only come into the educational institutions — out of rush-hour periods — to attend seminars or necessary face-to-face discussions.

Daily work, administration, and communications between students and their educational institutions/teachers/colleges will all be managed from home. The hardware and software to achieve this exists already — networked personal computers, the fax (facsimile) system, mobile communications in every form.

## Video Conference

Video conferencing could improve the level and quality of communication between student and teacher and assist time — control decision making by allowing students who are available at the same time, but who are unable to be present in the same place, to discuss. The system allows two or more teachers/students in geographically distant locations.

## Dip and Teleconferencing

With the introduction of computers in the educational institutions, it is generally believed that the use of paper would gradually diminish. This prediction may come true with the development of Document, Image Processing (DIP). DIP is the storage, management and



retrieval of images in a computer system.

Teleconferencing and network conferencing will be the ways of holding group discussions. A teleconference could consist of students/teachers being linked by video pictures through computers which could incorporate word processing, hand-written transmission and other capabilities. Students who are part of the network will be connected to a common mailbox, so that messages can be left for collection at time of the 'Seminar'. This will be used for international discussions to overcome time difficulties.

### Local Area Network

An information network that connects computer resources within a geographical area of moderate size, such as college building or a university campus is called a Local Area Network(LAN). This would enable a variety of information technology resources to be inter-lined. Such lines could also be used to link educational institutions located in different places.

### Optical Discs

We are in the age of information era. Quick access to reliable and up-to-date information is one of the most remarkable successes of the present age, be it education or business. The availability of the Compact Disc Read Only Memory (CD-ROM) will fulfil such a need. CD-ROM contains huge amounts of data which could be quickly searched and used for reference. For example, CD-ROMs will contain the complete dictionary, Thesaurus, Spelling checker, and many other details will be available on a single disc. In book form, these would amount to thousands of pages to refer. CD-ROMs will put the whole library of information at your finger tips which could easily be referred to, extracted and used in your documents in a matter of minutes.

The greatest benefit of advanced technology to educational Institutions will be the increased productivity of the students, teaching learning materials, creative thinkers, and decision makers. Information is a resource and universities will learn how to apply new technology to the management of their resources so that students will have quick and convenient access to high quality information.

Local area networks(LANs) will be the city streets, computer conferencing systems will be the interstate highways, packet switched networks will be the global trade routes and bulletin board systems will be rambling country roads that would tie colleges together.

The personal computer in the 21st century, will be a

hand-held terminal, without a keyboard, that will have voice recognition as the input device for operating the system, while communicating with worldwide information networks through satellites. This device will be the teacher, head of the department, personal secretary, administrative assistant, corporate staff, lab technician, information network, electronic post office and telephone.

Educationists are already experimenting with techniques that modify human behaviour. The day is not far when education will be controlled through a machine which will be fitted over student's head with a selector switch to help student memorize or be creative ? With the switch on create, student might be able to think up all sorts of things one could not imagine otherwise. The machine would stir student's brain to help student learn. Student might absorb all of the knowledge in a set of encyclopedias in a single sitting ! There is a possibility that the future holds devices or drugs which may increase man's ability to create his/her ability to learn and think. Some type of mental control which will aid thinking and creating is almost certain.

Education will take many new forms and all teaching learning methods will be new once man settles on the planets. Students will need different books, teaching learning materials and methods, libraries, educational Institutions on each planet. The students will need different theories of learning, and epics and pictures and music by the time they have migrated to the planet pluto and beyond. This will be the educational institutions of the future.

## PANJAB UNIVERSITY, CHANDIGARH

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(Raj Khanna)  
Director



# The Stupid Rule

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Prof. Asok Mitra, Professor Emeritus, Jawaharlal Nehru University, New Delhi delivered the Convocation Address at the eighth convocation of the University of Kalyani. Decrying the lack of flexibility in course offerings in our universities, Prof. Mitra observed, "The extreme folly of this dispensation will appear from the stupid rule that prevails in all our universities. Once you are a student of history or any of the humanities you can never switch over to any hard science subject at the graduate or postgraduate stage. This way we are going to build up a nation of citizens each confined to the prison of his own discipline. At this rate we shall go on producing scientists and technologists who have hardly heard of Rabindranath Tagore or Premchand and vice versa. The world will become a place for morons each with a high degree of specialization but lacking in confidence, imagination and ability to connect different universes of the mind." Excerpts

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Let me begin by avowing that I am not enamoured of yesterday and for restoring it but in coming to terms with the new day before it breaks. Although many of us are given to deploring yesterday, yet much of our national and local effort in education mostly goes to bolstering up yesterday with a new cosmetic, each threadbare than the one before. Mr. Rajiv Gandhi's campaign for taking the nation into the twentyfirst century proved a non-starter. It was unnecessarily authoritarian, suggesting as though he knew all the answers, while what he might have attempted was to initiate a continuous and searching debate

parents, students, teachers, renowned academics, and even Nobel winners. The system there is under constant scrutiny with no holds barred : the main question being how relevant for tomorrow is the education being imparted today. Marx's Juggernaut of Indian authoritarianism looks upon any new idea, approach or modification in the pedagogical structure with horror as a dangerous bushfire threatening entrenched interests. What is needed foremost today is a searching debate at all levels and not leave the question to experts alone. Answers will emerge as one stumbles along since periodic midcourse

## CONVOCAATION

nationally and regionally which would have abided as part of our national tradition in our multi-ethnic, multi-lingual, plural society. If you opened any American newspaper of any worth today you would probably find at least one detailed coverage of a debate on the educational system attended by

corrections are of the essence.

Chowdhury Charan Singh once observed that our country now has two identities : one Bharat, the other India. Startling when one suddenly recalls it, it has unfortunately been attaining more and more substance with time.

Let us begin with one of the most elemental factors operating in the realm of human resources. Swami Vivekananda, Mahatma Gandhi, and particularly Rabindranath Tagore pleaded with all the persuasion at their command that education up to a fairly high stage should be conducted in the mother tongue, like every other nation worth its place on the world's map. I taught M.Phil at Nehru University for ten years which in my time recruited most of its talent from among deprived communities and backward regions, where education up to the degree course is now mainly conducted in the local mother tongues. The students usually had difficulty in the first two semesters after which their mature and informed minds picked up English for expressing themselves on paper, although their spoken English, like those of most Bengalis, even among those educated in English medium schools in Calcutta today, was not quite up to the mark. If the sixties and the early seventies were the age of the Hippies all over the western world and their counterpart the Naxalites in India, especially in Bengal, Hippies who would forsake the world in their fight against affluence, the sweet life and consumerism — the world as well as India since the early seventies has been dominated by the Yuppies with their stress on English as the medium of instruction from infancy and passport to the sweet life. No matter how promising the children of Yuppies, who live in affluent residential areas, and are no more than an insignificant fraction of the young population of India in schools and colleges, may seem, studying in privileged English medium, privately endowed schools, the solid stock of Bengali intellectual potential is mostly in the traditional Bengali medium schools of the State's educational world. After all, the young learn best and most soundly in their own language



nourishing their own roots. Unfortunately, there is a great difference in standards of teaching aids, amenities, environment, library and other intellectual and extracurricular activities, the pay and ethos of teachers, the sizes of class rooms, differences in the teacher-pupil ratio and lack of enforced discipline among teachers in Bengali-medium schools. This middle class intellectual genestock in the latter schools is now in danger of rapid erosion, for lack of proper tending. To this add the perpetual power breakdowns at study hours in the evenings which effect this solid genestock in poor homes and neighbourhoods more than the childrer of Yuppies. If these breakdowns continue unabated, West Bengal is sure to hit the bottom in literacy at the end of this century. This is the greatest danger that faces not only Bengal but the whole of the country today. On the national plane we have seen how the English-medium public school world-view has not worked out all to the good in the last fifteen years while in the previous fifteen the Santiniketan world-view gave the country strength, self-confidence and self-esteem.

I have been a father for several decades and a grandfather for about a decade. All this time I have compared notes with my friends and over the last ten years with my daughter's friends. Besides, I have had opportunities of observing young children and adolescents not only among the Yuppies in my Jodhpur Park community who send their children mostly to privately endowed English medium schools and also noticed how the value system of this community is rapidly percolating to the Bharat or lower middleclass or even slum dwelling population of Dhakuria, Garia, Bagha Jatin or Haltu. My daughter and her friends about four decades ago were mostly left to their own

devices, formed their own company, were not mollycoddled by their parents and were very much on their own. Parents merely watched whether their games and reading habits were on the right track. None of them ever had private tutors at any stage and never groaned under an impossible weight of textbooks or overloaded curriculum and had plenty of leisure to take down from their parents' book shelves any book they liked—from Plato's *Dialogues* to Lawrence's *Lady Chatterly* or any scientific reference book or lexicon that took their fancy. They had plenty of self-confidence and looked up to their parents for help as a last resort. Young people are now constantly protected and set on a preordained tailor-made future and very little is left to them from the moment they wake up to the moment they go to sleep. Their parents' solicitude make them lean, right from day one, entirely on the crutches of their parents or tutors. Parents tend to kill them with anticipation, kindness and excess of protective care, in the process subjecting them to great mental insecurity and physical helplessness. Everything becomes a status symbol, right from the waterbottle to the private tutor for every conceivable subject. Life is heavily regimented with impossible standards of professionalism placed before them from infancy. They are under constant stress and in danger of disorientation. This brings about two other casualties as the child grows in years. First, reeling under the stress and hide-bound regimentation they tend to lose the gift of imagination. They are hard put to learning by rote what is supposed to bring them the coveted results in examination. The other casualty is the freedom and leisure to move freely from one province of knowledge to another; the failure to connect different universes of discourse. The extreme folly of this dispensation will appear

from the stupid rule that prevails in all our universities. Once you are a student of history or any of the humanities you can never switch over to any hard science subject at the graduate or post-graduate stage. This way we are going to build up a nation of citizens each confined to the prison of his own discipline. At this rate we shall go on producing scientists and technologists who have hardly heard of Rabindranath Tagore or Premchand and vice versa. The world will become a place for morons each with a high degree of specialization but lacking in confidence, imagination and ability to connect different universes of the mind.

The reality of two contradictory worlds — Bharat and India — coexisting side by side in intolerance of each other amounting almost to hatred — has emerged more stridently than ever in the last quarter of this century. It is the sheer intractable size of India's population that has earned her the distinction of the ninth industrial power, the third in trained scientific and technical manpower, and what have you : all these are no more than the inertia of a mammoth population. An infrastructure has been built up over the last century, the benefits of which have largely gone to those who had already been well above the threshold of poverty, malnutrition, social and economic disabilities. This top layer is no more than twentyfive percent of the entire mass, and is known to the outside world as India, while the rest is still steeped in illiteracy, high birth rate, high infant, maternal and general mortality rates, malnutrition and a life well below the poverty line, denied of rights due to a first class citizen. This is what makes India appear as a colossus with feet of clay with none of the respect and deference that should have gone with her due place in the sun.



Such a situation exerts a constant pull downwards from the bottom which deprives the top layer of that stability, tranquillity and strength which alone can ensure steady improvement in the higher spheres of intellectual, professional, technological and technical activity. Owing to the fact that neither of these latter activities are rooted deep in the soil nor draw sustenance from the entire population of the subcontinent, most of what passes for excellence is no more than some gloss over received knowledge borrowed from abroad both by way of value systems and curricula of knowledge. This explains why in spite of so much apparent sophistication in every field of the humanities, science, professions and technology, there have been so few original contributions from Indians working in India to the world pool of knowledge in science and the humanities that will enrich the twentyfirst century. What we do have here are at the most peripheral embroideries or footnotes to reaches of excellence attained elsewhere. So deeply enslaved our intellects have been, nursed from infancy in colonial subservience.

Isn't it strange that so much of our talent which so to say lies buried under a bushel in this country comes to full brilliance as soon as it is admitted to a foreign educational institution? Surely there must be something rotten in our national make-up which by enforcing unquestioning obedience from infancy kills initiative, non-conformism, the questioning spirit and constant desire to test every bit of received knowledge by putting it upside down right from childhood. And all this done in the name of our ancient value system of abject submission to age and authority. We have built up excellent cramming systems from the primary stages upwards. The amount of received knowledge neat-

ly packed into the head of each child or young student is of course remarkable vis-a-vis one of comparable age group in America or Europe. But few can relate different universes of discourse or travel freely from one discipline to another, so rigidly have the academic domains entrenched themselves into what Tagore called *Achalayatan* or hermetically sealed compartments.

A new form of national debate must therefore begin where the principal actors will be the students especially young graduates and teachers, who must be encouraged to articulate what their felt needs are. I am sure young people are more aware of what their own problems will be at the end of this century than their teachers ever will be. The latter will always try to impose their own will in the name of expertise, and it is only through an intense debate in each ethnolinguistic cultural region that the teachers and the taught can come to some relevant conclusions about what the proper mix between formal and received knowledge on the one hand and participatory learning through creative projects of the region's ecosystem on the other should be. If we are going to enter the twentyfirst century it must be by calling everything in doubt, pulling established notions upside down, by insisting on a fresh look and letting the student have his head. The teacher will help by constantly striving to supply the means of achieving them. For ten years I taught M.Phil. and supervised Ph.D. at Jawaharlal Nehru University. Each year I had ten to fifteen students to look after. For each new batch it took me about one half of the first semester, constantly urging them to dispute everything I said. I wanted to generate a dialogue which, rewardingly, came after a lot of coaxing. Such is our awe of authority. Then again, by the time I

had read one book the fifteen had read another fifteen. Each of them had a different world view. I would have been an utter ass to pretend to be wiser or better read than they were. So I chose what I thought was the wiser course by going along with them, picking their brains, learning from them what they had read and thought about, finally by suggesting tentatively what I thought. I thought that was the way of keeping my end up and yet bringing out the best in them. Mine was by choice a peripheral catalytic role. But I realise that the primary and undergraduate teaching community has a much more demanding task and a more positive role.

## Dr Rao Passes Away

Padma Vibhushan Dr.V.K. R.V. Rao, former Union Minister and National Professor of Economics, passed away on July 25, 1991 in Bangalore. He was 83.

Born on July 8, 1908, Vijayendra Kastru Ranga Varadaraja Rao had been a Professor, Vice-Chancellor, eminent parliamentarian, Cabinet Minister at the Centre and founder of reputed institutions and had earned a permanent place in the history of social sciences, contributing enormously to economics, policy formulations and public life.

A versatile personality, Prof. Rao's single biggest contribution was developing indigenous economic expertise attuned to the problems of the country. He was a great institution builder who left a lasting impact on a large number of academic institutions in the country. He founded the Delhi School of Economics, the Institute of Economic Growth, Delhi, and the Institute of Economic and Social Change at Bangalore.



# CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be Contacted
Sept. 16-20, 1991	Regional Symposium on Educational Testing	Theme : Reforms and enhancements in educational testing system, test contents and formats in a country (or region)	The National Education Examination Authority (NEEA), People's Republic of China	Mr. Yang, Xuewai, Director, National Education Examinations Authority (NEEA), State Education Commission, 30 Yu Quan Road, Beijing 100039, The People's Republic of China
Sept. 17-18, 1991	Fourth Annual Conference of the Asian Association of Open Universities	To explore the need, desirability, practicability and relevance of face to face components in Distance Education	The Open University of Sri Lanka, Colombo, Sri Lanka	Ms. C Suriyapperuma, Organising Secretary, AAOU Conference, Open University, Box 21, Nugegoda, Sri Lanka
December 9-26, 1991	Winter School on use of Statistical Software	To introduce college and university teachers to computer-oriented statistical methods and to train them in the use of statistical software packages.	Indian Statistical Institute, Calcutta	The Course Director, Winter School on use of Statistical Software, Computer Science Unit, Indian Statistical Institute, 203, Barrackpore Trunk Road, Calcutta-700 035
December 14-16, 1991	International Conference on Man & Environment	To discuss issues concerning the future of man and preservation of the unique planet earth	Motilal Nehru Regional Engineering College, Allahabad	Dr. R.K. Srivastava, Organising Secretary ICOMEN - 91, Department of Civil Engineering, Motilal Nehru Regional Engineering College, Allahabad.- 211004
November 9-13, 1992	16th World Conference on Distance Education for the Twenty-First Century	To give a view of the aspects of development in Distance Education in the Twenty-First Century	International Council for Distance Education, in cooperation with Sukhothai Thammathirat Open University (STOU), Thailand	Mr. Bruce Scriven, Program Chair - 16th World Conference of ICDE, Queensland University of Technology, Locked Bag No. 2, Red Hill Queensland 4059, Australia



# Refresher Course in Commerce

The Academic Staff College of Himachal Pradesh University organised a 3-week Refresher Course in Commerce from July 15 to August 3, 1991. The programme was inaugurated by Prof. K.C. Malhotra, Vice-Chancellor of the University. Speaking on the occasion, Prof. Malhotra emphasized that the Commerce teachers had to shoulder the main responsibility of understanding the developments in Indian economy and evolving appropriate remedies for its sustenance. Prof. Malhotra was hopeful about the effectiveness of Refresher Courses being organised by the Staff Colleges as he felt that they would instil required skills, values and knowledge among the teachers who were the harbingers of change in the society. The teachers have to dispassionately review the recent socio-cultural developments, develop an urge for understanding the implications of new technology and adopt disciplined life for the prosperity of the country, he added.

The thrust area for the programme was accounting and finance. A number of topics such as Zero Base Budgeting, Distribution

adopt a number of innovations in teaching and learning situations. Some of the techniques utilised during the programme were — Warming Up, Brains Trust, Think Tank, Case Studies, Business Games, Role Playing, Synectics, Workshops, Video Presentations etc.

The level of learning and attitudinal change was monitored in view of the programme objectives and the level of participants needs and cognition. The concept of quality circles was implemented in order to gather useful suggestions from the participants. A significant stress was laid on group activity, participative management and informal interaction.

In the Valedictory Function, Prof. Lokesh Koul, Dean of Studies, H.P. University advised the participants to carry the light acquired during the programme to the students and community. Prof. Koul said that the teachers had to broaden their outlook and be pleasing to the students. He further added that a real teacher always carried life-long impact on the be-

## Course on Varsity Finances

"The system of university education in India is one of the largest in the Commonwealth and perhaps in the world itself with a vast network of 180 universities, 7000 colleges, 5 million student enrolment every year and 2 lakh teachers, but only a few universities are functioning well fulfilling the obligations to the society," observed Prof. P. G. Sastry, Principal of the Regional Engineering College, Warangal. He was delivering the valedictory address at the 10-day training course on the 'Management of University Finances' conducted by the Training Centre for the Non-Teaching Staff of the Universities in India at the Kakatiya University recently.

Expressing concern over the declining standards of education in the Indian universities, Prof. Sastry said that only a few could strive for excellence in the ocean of mediocrity all around while others were sandwiched between quality and quantity, excellence and equity, accountability and autonomy and thus caught up in the vicious circle, not able to come out to serve the cause of education in the proper perspective.

Prof. Sastry sounded optimistic when he said that the day was not far off when the educational institutions in India would carry on their academic activity for the fulfilment of the objectives set before them.

Prof. V. Bhaskara Rao, Principal of the University College, who presided, said that the participants who had undergone the course in various aspects of the university financial system would definitely help their authorities when they go back to their respective places in easing out some of the financial problems faced by their institutions. Prof. Rao called for a thorough overhaul of the system of university administration to serve the society

## CAMPUS NEWS

Audit, Venture Capital, Mutual Fund, MNCs, Linear Programming, Applications of Operation Research, Consumerism, Financial Institutions, Project Appraisal, Recent Developments in Indian Economy, International Monetary System, Industrial Policy and Budget etc. were discussed.

The programme was innovative and participatory in nature. The participants were motivated to

haviour of students.

29 lecturers from 10 universities of the country participated in the programme. A team of 15 eminent resource persons was involved in the training programme. Dr. Balkrishan Bali, Chairman of the Commerce Department, Himachal Pradesh University, was the coordinator of the programme.



better and felt that training courses of this type would go a long way in this direction.

Presenting the report, Dr. K. Rajeshwar Rao, Co-ordinator of the Training Centre said that 29 topics on the management of the university finances were covered by 21 resource persons in 34 lecture classes held during the ten-day long training course.

Third in the series, the course was attended by 23 non-teaching staff members — Deputy Registrars, Assistant Registrars and Superintendents — drawn from 13 universities all over the country.

### Astronomical Data Centre

An Astronomical Data Centre (ADC), funded by the Department of Science and Technology, is being set up at the Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune. When complete, the ADC will have a large collection of astronomical catalogues and data bases together with software for efficient retrieval of the data.

Progress is under way towards setting up the ADC. A workstation with 600 Mb of disk space has been obtained and networked with other computers. A collection of astronomical catalogues has been obtained from Centre De Donnees Stellaires (CDS), Strasbourg, France and has already been set up on tapes and disks. Computer programmes for reading these catalogues and converting them to the required format are being written and preliminary versions of these should be available by the end of October 1991. A list of various catalogues is being made and this will be circulated to the community to know if any catalogues which are not present in the ADC but are im-

portant to sections of the community.

Astronomers from various institutes and observatories and departments are welcome to send their suggestions and also a list of catalogues which may be present with them to Ajit Kembhavi at IUCAA, Post Bag 4, Ganeshkhind, Pune-411 007.

### Literacy Rate Goes Up

According to the 1991 census findings the absolute number of literates in the country has shot up from 234 million in 1981 to 352 million in 1991, while the absolute number of illiterates has only marginally increased from 302 million to 324 million during the decade.

An analysis of the census data regarding literacy reveals that there has been a near 50 per cent increase in the number of literates, while the increase in the number of illiterates is just 7 per cent during the decade.

The total literacy rate in 1991 is 52.11 per cent with male literacy levels of 63.86 per cent and female literacy levels of 39.42 per cent.

In the last few decennial census of India, children below five years of age were treated as illiterates.

Since ability to read and write with understanding is not ordinarily achieved until one had at least one to two years of schooling, it was felt that the population aged seven years and above is to be classified as literate or illiterate and the population below this was to be excluded while computing the rate of literacy.

In view of this, in the 1991 census, the question on literacy was canvassed only for population aged "seven years and above".

Literacy rates for 1951 and 1971 relate to population aged five years and above. The rates for the years 1981 and 1991 relate to the population aged seven years and above. The literacy rates for the population aged five years and above in Kerala, where the literacy rate is about 91 per cent, ranks first in the country in both male and female literacy. Among bigger states, Tamilnadu comes next with a literacy rate of 63.72 per cent. Bihar has the lowest literacy rate of 38.54 per cent, followed by Rajasthan with a literacy rate of 38.81 per cent.

The States of Andhra Pradesh, Arunachal Pradesh, Bihar, Madhya Pradesh, Meghalaya, Orissa, Rajasthan, Uttar Pradesh and the UT of Dadra and Nagar Haveli have literacy rates below the national average. Female literacy rates are very low in Rajasthan (20.84), Bihar (23.10) and Uttar Pradesh (26.02).

The importance of the literacy scenario could be better understood in its relationship with indicators of socio-economic development of quality of life.

In Kerala, the literacy of parents has also produced a very good impact on universal enrolment and retention of children in schools.

Universal literacy has also produced the lowest infant mortality rate (15 per thousand), the lowest proportion of married families in the age-group 15-19 and very low death rate.

Contrasted with this is the State of UP with a literacy rate of only 41.71 per cent and female literacy rate of 26.02 per cent.

This State has the highest infant mortality rate, high birth and death rates, high proportion of married



families in the age group 15-19 and low couple protection rate.

### **Astronomy & Astrophysics Research Students Meet**

A group of research students at Pune proposes to hold a meeting of research students working in the field of Astronomy and Astrophysics — instrumentation, computation, observation to theoretical gravitation, early universe, structure formation — in India some time during February 1992. This would be useful in getting to know the kind of work being done by students at various centres and will facilitate interaction among students working in related fields. It will also help to know about the activities going on in other institutes/ universities.

Interested students may send the following information before the end of August 1991 to Tarun S. Ghosh, c/o Inter-University Centre for Astronomy and Astrophysics, Post Bag 4, Ganeshkhind, Pune - 411 007: Name, Institute/University, Address (for correspondence), Field(s) of research, Number of years in A&A research, Whether interested in attending the meet, Other information.

### **Seminar on Physical Education and Sports**

A two-day Seminar on Physical Education and Sports was recently organised by the Board of Physical Education and Recreation, Nagpur University. The objective of organising the seminar for its personnel was to enhance their professional competence by exposing them to a wide variety of subjects in Physical Education.

The Seminar was inaugurated by Miss Diana Edulji, Bombay Arjun Award Winner (Cricket) and presided over by Shri S.W.Dhabe, Ex-M.P. and President, All India Physical Education Congress. Dr. P.L. Bhandarkar, Vice-Chancellor of the University also graced the occasion.

In the technical sessions that followed the inaugural function papers were presented on (i) Nutrition and Diet for Athletes; (ii) Sports Management; (iii) Principles of Coaching and its importance; (iv) Sports Psychology; (v) Sports Medicine; (vi) Doping; and (vii) Importance of Yoga for Physical and Mental Fitness.

"It is our bounden duty to implement the new concepts which are coming up in the field of sports and physical education", stressed Mr. Shyam Ashtekar, State Minister for Sports while delivering the valedictory address at the seminar.

Mr. Ashtekar who covered a wide spectrum of sports related subjects like training, medicine, nutrition etc. in his speech, evinced the hope that Nagpur University would present a master plan on the above to the State Government, to facilitate sports promotion.

The Minister lauded the efforts of the Nagpur University in the field of sports promotion and hoped that such seminars would be held regularly to invigorate the sports culture in the state.

Dr. G.P. Gautam, Deputy Secretary, Association of Indian Universities, who presided, stressed the need to do some honest thinking for the building up of a real sports culture in the country.

### **Automated Photoelectric Telescopes**

The Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune, is developing small (14") automated telescopes, which could be used to make photoelectric observations under computer control. The aim of this development is to provide opportunity to the interested groups in universities of acquiring such telescopes for their own use. In order to discuss the technology of making such telescopes, and the type of observations which could be carried out using these, the centre proposes to organise a workshop during October 21-25, 1991 at Pune. Those interested may get in touch with Dr. Ranjan Gupta c/o IUCAA, Post Bag 4, Ganeshkhind, Pune-411 007 for further information.

### **Photoelectric Photometry of Variable Stars**

In order to bring together the university groups, particularly in the eastern region of the country, interested in the use of photoelectric photometry, the Inter-University Centre for Astronomy and Astrophysics (IUCAA) proposes to organise a workshop at Gauhati University during December 2-7, 1991. The topics to be covered include: techniques of photometry with photodiodes and with CCD's, photometry of variable stars, photometric observations of occultation events. Actual observations and data reduction will be other important features of the workshop. Further details may be obtained from Professor H.L. Duorah, Department of Physics, Gauhati University, Guwahati- 781 014.



## News from Agril. Universities

### National Workshop on Dairy Animal Management

Dr. Khem Singh Gill, Vice-Chancellor of the Punjab Agricultural University, inaugurated a National Workshop on Management recently at the university campus. While addressing the participants, Dr. Gill said that India was the third largest milk producing country of the world. He said that the buffalo population in India was 75 million while that of Punjab was 4 million. He further said that the per capita milk production in Punjab was 728 gm against the national average of 175 gm. The Vice-Chancellor revealed that the cattle population of the country was 210 million while in Punjab it was 3.5 million.

The Vice-Chancellor said that the Animal Science Department of the University had the best buffalo herd in the country and had produced progeny tested bulls. The average 305-day lactation yield of buffalo herd of the PAU was 2052 kg with an average peak yield of 13.4 kg. Dr. Gill further said that 13 male calves from high-yielding dams were given to progressive dairy farmers for improving the productivity of their buffaloes.

Dr. Mehar Singh, Professor and Head of the Department of Animal Science of the PAU said that the department was standardising the technique of Embryo Transfer. The first calf from frozen embryo had successfully been produced. It is a male calf (birth weight 40 kg) of Holstein-Friesian, the best dairy breed of the world. The milk yield of its mother is 20607 lbs (9191 kg) per lactation. Milk yield of Sires' 1429 daughters tested in 360 herds is 20662 lbs (9216 kg).

Dr. G.S. Gill, Director of Extension Education of the PAU said that dairy farming fitted well in the diversification of agriculture. He urged that the farmers should be educated about animal health and feeding.

33 delegates representing Himachal Pradesh, Punjab, Mizoram, Orissa, Gujarat and Karnataka attended the workshop which was sponsored by the Union Ministry of Agriculture.

### Nursery Practices and Forest Renewal

The two-week ICAR sponsored

short course on "Role of Nursery Practices in Forest Renewal" was recently concluded at the Haryana Agricultural University (HAU), Hisar. The Vice-Chancellor, Dr. A.L. Chaudhry, was the Chief Guest at the function.

Around 40 delegates from different farm institutes of the country and HAU scientists took part in this programme. The participants reviewed the research work done so far under farm forestry and suggested new guidelines to be adopted in future. Dr. P. Tauro, Dean, Postgraduate Studies gave away certificates to the participants. Speaking on this occasion, Dr. Tauro underlined the importance of forest renewal which, he said, was the basic approach to face the challenges caused by natural calamities and also to maintain ecological balance.

## News from UGC

### Countrywide Classroom Programme

Between 26th August to 31st August, 1991 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The Programme is available on the TV Network throughout the country.

#### 1st Transmission

1.00 p.m. to 2.00 p.m.

26.8.91

"Introduction to the Remote Sensing - I"

"Optical Alignment - V"

"Communication or Lack of it"

27.8.91

"Synthesis of our Organic Compound"

"Unveilings Antarctica"

"Hypnotism - II"

28.8.91

"Speaking of the Environment"

"Why Geography?"

"Poultry Farming"

29.8.91

"Electrical Circuits - VII"

"Nutrition - Problems & Challenges"

"The Growth of a Poet - William Wordsworth - II"



**30.8.91**

"Krein - Milman Theorem"

"Images of a Girl Child"

"Vanja - Tryst With a Green Future"

**31.8.91**

"Grips Theatre"

"The Pursuit"

**2nd Transmission**

4.00. p.m. to 5.00 p.m.

**26.8.91**

"Polarization of Light"

"Elements of Marketing"

"Scientific Storage of Foodgrains"

**27.8.91**

"Electric Interaction in Chemistry"

"Educational Technology - The Teleteacher -I"

"Vitamins : The Protective Elements -II"

**28.8.91**

"CBR Test"

"Glimpses of Ladakh - I"

"Some Endocrine Disorders"

**29.8.91**

"Computer : The Stupid Genius"

"Studying Shakespeare in Text and Performance"

**30.8.91**

"Simplification of Switching Circuits"

"Mental Illness - A Diagnosis"

"Solar Passive House : A House for all Seasons - II"

**31.8.91**

"Grips Theatre"

"The Pursuit"

**Sabbatical Leave Conditions Liberalised**

The University Grants Commis-

sion has modified the conditions of admissibility of pay and allowances to the university professors and other teachers in the universities and colleges availing sabbatical/study leave with financial assistance from any Indian or foreign agency.

Keeping in view the financial difficulties faced by Indian teachers going abroad on sabbatical or study leave because of the present higher cost of living, the Commission has decided that teachers getting financial assistance of \$ 20,000 or above

per annum may be granted leave without pay while those getting \$ 10,000 and above but less than \$ 20,000 per annum may be granted half pay during their leave. Teachers getting financial assistance of less than \$ 10,000 per annum may avail leave with full pay. The earlier financial ceilings fixed in 1978 were \$ 10,000, \$ 5,000 and below \$ 5,000 respectively.

The scheme of sabbatical and study Leave is intended to enable teachers to enrich their academic achievements.



**Indira Gandhi National Open University**

**Schedule of Telecast for the Period 1 September to 30 September**

**6.30 AM to 7.00 AM**

Date/day	Academic Programme	Title
2 Sep. Monday	Bachelors Degree Programme (BDP)	The Method of Science
4 Sep. Wednesday	Bachelors Of Library & Information Science (BLS)	Library Cataloguing Practice 4
6 Sep. Friday	Management(DIM/ADIM)	ITDC – A Case Study
9 Sep. Monday	Bachelors Degree Programme (BDP)	INSAT (Hindi)
11 Sep. Wednesday	Computers in Office Management	Communication in the Office Part-I
13 Sep. Friday	Management (DIM/ADIM)	Effective Selling
16 Sep. Monday	Bachelors Degree Programme (BDP)	Working of Stock Exchange
18 Sep. Wednesday	Diploma in Distance Education (DDE)	Counselling in DE
20 Sep. Friday	Management (DIM/ADIM)	Computers in Development
23 Sep. Monday	Bachelors Degree Programme (BDP)	Stock Exchange Ki Karya Pranali
25 Sep. Wednesday	Bachelors of Library & Infomation Science (BLS)	Library Cataloguing Practice 5A
27 Sep. Friday	Management (DIM-ADIM)	Information System
30 Sep. Monday	Bachelors Degree Programme (BDP)	In Search of History



### Distance Education for the 21st Century

The International Council for Distance Education, in cooperation with Sukhothai Thammathirat Open University (STOU), Thailand, is organising the 16th World Conference on "Distance Education for the Twenty-First Century" from 8 to 13 November 1992. The aim of the conference is to give a view of the aspects of development in distance education in the twenty-first century. Among the main issues to be discussed and expanded upon are literacy and basic education, materials development, student needs, research, education in developing nations, technological application, distance vs open learning, planning and cooperation, as well as other pressing issues which will profoundly influence the approaches to distance education and the course it will take in the next century.

The program will include plenary lectures, invited and contributed papers, workshops, and roundtables.

The topics proposed to be debated in the conference include :- (1) Distance Education and Development — Human resource development, social engineering, political and economic issues, policies and strategies, environmental protection; (2) Distance Education in the Developing World — The role of open universities - are they the answer ?, education versus training, role of the industrialized world, gaining legitimacy for distance education; (3) Distance Education, Literacy and Basic Education — Production of course materials, special target populations, the role of media, training the staff; (4) Research and Development — Where to in the future ?, training researchers, methodological problems and issues; (5) Development of Distance Education Materials — Features of good materials, role of instructional design, choice of media. (6) Students — Student needs, student support systems now and in the future, are contact sessions really necessary?, tutoring at a distance; (7) Applications of Technology — Course development, course management (including computer-managed-learning), new technologies — will they help ?, (8) Distance Education and Open Learning — Industry training/retraining, professional development and distance education, industry/education partnerships, career pathways through distance education; and (9) Planning and the Future — Collaboration and development, global/national initiatives, joint ventures and consortia, networking and telecommunications.

Further details with regard to participation and presentation of papers may be had from Mr. Bruce Scriven, Program Chair — 16th World Conference of ICDE, Queensland University of Technology, Locked Bag No.2, RED HILL Queensland 4059 Australia.

### France : Higher Allocation for Education & Research

The French finance ministry has proposed an increase in the 1992 budget for higher education and research ministries, to the tune of 5.6 per cent to the massive £ 26 billion education budget and a 5.8 per cent increase for the research ministry, bringing its annual budget to £ 5 billion.

Technology programmes under the industry ministry, such as high definition television and the TGV high speed train, will also get increased funding.

The budget rise for education — smaller than the two previous years

### UGC SPECIAL ASSISTANCE PROGRAMME DEPARTMENT OF LIFE SCIENCES MANIPUR UNIVERSITY, IMPHAL : MANIPUR

#### ADVERTISEMENT

Dated the 1st August, 1991

Applications are invited for the post of 4(four) Junior Research Fellows and 2 (two) Research Associates under the SAP in Life Sciences Department of Manipur University. Only those who have passed the NET conducted by UGC/CSIR are eligible to apply for JRF position. Those who have not passed NET may be considered as Project Assistants with a consolidated salary of Rs.1,200/-p.m. strictly for a period not more than one calendar year.

1. Research Associate 2 (two) (one for Bio-ecology and one for Genetics). Stipend :Rs.2,200-100-2,700/-p.m. (with allowances admissible under UGC rules). Qualification :M.Sc. with First or High Second Class in Zoology/Botany/Bio- Science/Life Science with Doctorate Degree with research work in the field of Genetics and Bio-ecology.
2. JRF 4 (four) (two for Fish Biology and one each for Genetics and Bio-ecology). Stipend :Rs.1,800/-p.m. Qualification :M.Sc. with First or High Second Class in Zoology/Botany/Life Science/Bio-science with specialization in Fishery, Genetics Ecology, Bio-ecology.

Applications on plain paper giving full bio-data with certified copies of relevant certificates (NET) included should reach the undersigned on or before 30th August, 1991.

Prof. H. Tombi Singh  
CO-ORDINATOR  
UGC SPECIAL ASSISTANCE PROGRAMME  
DEPARTMENT OF LIFE SCIENCES  
MANIPUR UNIVERSITY  
IMPHAL-795 003



when it stood at 8.8 per cent and 9 per cent — will allow for 3,000 more jobs in higher education. With university expansion, student grant increases and trainee-teacher grants already in the pipeline, extra funding gives the go-ahead.

Two areas threatened by cost-cutting measures, however, the national agency for the development of continuing education may be scrapped, saving the education ministry £ 1.1 million. Second; the number of medical students is to be cut back from 4,000 to 3,500 next year to make savings for the national health system.

### **Safety Project for Asian Industry**

Asian scientists are to cooperate in a comprehensive United Nations research and training programme to improve health and safety standards in industrially emerging Asian countries using complex and dangerous production techniques.

The project will be based on lessons learned from industrial accidents such as India's Bhopal disaster six years ago, when an explosion at the Union Carbide chemical plant caused a gas leak which killed more than 3,000 people and affected hundreds of thousands.

A network of training units are being set up in the Asia/Pacific region by the UN's International Labour Organisation to spearhead the four-year programme. It will comprise the initial stage of a 20-year training operation involving higher education institutions.

Health and safety have rarely kept pace with industrialisation in poor countries, the ILO estimates that more than 10,000 workers die and 50 million are injured annually in industrial accidents within the region.

Jukka S. Takala, an industrial safety specialist for the ILO's Occupation Safety and Health Centre in Geneva, said: "Most of these accidents could be easily avoided if proper information training, advisory services and legal enforcement were provided."

Indonesia is receiving ILO help to control safety hazards resulting from rapid industrial growth and the creation of many chemical and allied industries. Many are in heavily populated areas. A hazard control unit is being established as the nerve centre of a national system including academic departments, regulations are being introduced, a database established and training provided for labour inspectors, medical and safety officers and engineers specialising in safety.

The ILO says such a large-scale training programme has been necessitated by the region's dynamic economic performance over the past decade. Small and medium sized enterprises have mushroomed, the labour force has grown massively and now includes many women and young people.

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### **We Congratulate...**

**Prof. Susnighda Dey, Rector (Pro-Vice-Chancellor), Jawaharlal Nehru University, who has been conferred Doctorate (Honoris Causa) by the University of Buenos Aires for his academic excellence and for publications and work of Spanish language in India.**

## **POST GRADUATE INSTITUTE OF MEDICAL EDUCATION & RESEARCH CHANDIGARH**

### **ADMISSION TO M.Sc./Ph.D.**

Admission to M.Sc. Biochemistry and Pharmacology courses and to Ph.D. programme of the Institute was advertised in the admission notice No. 19/91 (Acad). which appeared in this Journal on 17.6.1991. The closing date for the receipt of applications which was till 8th July, 1991 has now been extended upto 26th August, 1991. The application form and detailed information are available from the office of the undersigned either personally on payment of Rs. 20/- at the counter or by post for which the request be accompanied with a self addressed envelope size (23x10cms) indicating thereon the course etc., for which the form is required, bearing postage stamps of Rs. 4.50 and crossed postal order for Rs.20/- drawn in favour of the Director. The number of seats, and other details etc., will remain the same notified earlier in the said admission notice, except for Ph.D. programme in the department of Paediatrics where candidates with M.Sc. Biophysics degree will also be eligible to apply. Entrance test for M.Sc. courses will be held on the 4th September, 1991 at 8.00 AM in Lajpat Rai Bhawan. Selection for Ph.D. programme will be held on 6th and 7th September, 1991.

### **ADMISSION TO B.Sc. (Audiology & Speech Therapy) Course**

It is for information of all concerned that the number of seats to be filled for the said B.Sc. course will be six (5 general and one reserved for Sch.Castes/Tribes) and not three as was notified in the admission notice No. 20/91 (Acad.) which appeared in the Press in the last week of June/First week of July, 1991.

**O.P. Sharda  
REGISTRAR**



# AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on Higher Education. Among the topics prominently represented are Educational Sociology, Educational Planning, Educational Administration, Teaching & Teachers' Training, Examinations, Economics of Education and Country Studies. Developing fields of Adult Education, Continuing Education and Distance Education, and Educational Technology are also well stocked. The library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of Higher Education. Files of Annual Reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to the AIU Library'.

The Library also receives about a 100 periodical titles on Higher Education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research Scholars and students of education are welcome to use these resources. The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

## ADDITIONS TO AIU LIBRARY

Aggarwal, Santosh. **Three language formula : An educational problem.** New Delhi, Gian Pub., 1991. viii,326p.

Baker, William J. **Sports in the Western World.** Delhi, Friends Pub., 1982. viii,360p.

Basu, Durga Das. **Shorter constitution of India.** New Delhi, Prentice-Hall, 1989. lxxiv,1235p.

Chaudhry, Pushpa. **Socio-psychological study of student activists** Chandigarh, Pub. Bureau, 1990. xii,211p.

Chu, Donald. **Dimensions of sports studies.** Delhi, Friends Pub., 1982. xii,299p.

Dheer, S and Kamal, Radhika. **Organisation and administration of physical education.** Delhi, Friends Pub., 1991, xi,406p.

Eitzen, D Stanley. **Sports in contemporary society.** Delhi, Friends Pub., 1984. vii,430p.

ENCYCLOPAEDIA OF Indian literature. V4. Delhi, Sahitya Akademi, 1991. xvi,2925 to 3831.

ENCYCLOPAEDIA OF track and field. New York, Prentice-Hall, 1986. 208p.

Goyal, J C and Chopra, Ravi Kanta. **Elementary school teacher - A profile.** New Delhi, NCERT, 1990. 85p.

Gupta, B M, Ed. **Hanbook of libraries, archives and information centres in India.** 13V. V9. **Humanities information systems and centres.** 2Pts. Delhi, Aditya Prakashan, 1990. viii,489p.

\_\_\_\_\_. V11. **Libraries, archives and information technology : An annotated bibliography 1970-90.** Delhi, Aditya Prakashan, 1991. xxxviii,454p.

India. University Grants Commission. **Annual report for the year**

1988-89. Delhi, Author, 1989.

\_\_\_\_\_. **Report of the curriculum development centre in Law.** 2V. New Delhi, Author, 1990. iii,756p.

Indian Law Academy, Lucknow. **Latest law report for administration in Indian universities.** V2. Lucknow, Author, 1989. x,842p.

Knight, Tom and Troop, Nick. **Sackville illustrated dictionary of athletics.** Suffolk, Sackville Books, 1988. 160p.

Louis, Mary Josephine, Ed. **Research methodology for women's studies.** Kodaikanal, Mother Teresa Women's University, 1987. 28p.

Louis, Mary Josephine and Rajeswari, V. **Report on the seminar cum workshop on developing non sexist instructional material for formal education.** Kodaikanal, Mother Teresa Women's University, 1988. 73p.

MANORAMA YEARBOOK 1991. Kerala, Manorama Pub., 1991, 800p.

Mukhopadhyay, Kalyan Kumar. **Library conservation.** Calcutta, Information Research Academy, 1990. xv,328p.

Mukhopadhyay, M, Ed. **Educational technology : Third year-book.** V1. New Delhi, All India Association for Educational Technology, 1991. xiii,336pp.

Prem Kirpal. **Education and International cultural cooperation.** New Delhi, Vikas Pub., 1991. 295p.

Prem Kirpal, Ed. **Foundations of education for free India : Toward a new quality of life.** New Delhi, Allied Pub., 1990. xxiv,331p.

Seminar on uplift of women in South India in 20th century and



suggestions for 2000 A. D. **Proceedings.** Kodaikanal, Mother Teresa Women's University, 1986. 221p. (Conferences, seminars and workshops series ; 5).

Smith, Elizabeth A. **Productivity manual : Methods and activities for involving employees in productivity improvement.** Bangalore, Media International, 1991.

Sudarshanam, G. **Rural education : A study of universalisation of education in India.** New Delhi, Gian Pub., 1991. viii,207p.

Thapan, Meenakshi. **Life at school : An ethnographic study.** New Delhi, Oxford University Press, 1991. viii,271p.

Uday Shanker. **Sociology of education for modern India.** New Delhi, Enkay Pub., 1991. 288p.

Workshop on development of women through education(Madras)(1986). **Report.** Kodaikanal, Mother Teresa Women's University, 1986. 175p.

## THESES OF THE MONTH

### A list of Doctoral Theses accepted by Indian Universities

#### HUMANITIES

##### Philosophy

1. Desai, Subhash Keshavrao. **The relevance of modern scientific conclusions to religion.** Shivaji. Dr S H Dixit, 21, Ideal Society, Sagarmal, Kolhapur.

2. Dubey, Kaushal Prasad. **Vadan mein mahavakyarth: Bodh evam moksha.** Durgawati. Dr S P Dubey, Department of Philosophy, Rani Durgawati Vishwavidyalaya, Jabalpur.

3. Himes, Rhonda. **A critical study of the Advaita Vedantic theory and practice with special reference to Sankara and Vivekananda.** Kurukshetra.

4. Siddhashrama, D P. **The metaphysics and mysticism of Sri Nijaguna Shivayogi.** Bangalore. Dr G A Jalihal, Chairman, Department of Philosophy, Bangalore University, Bangalore.

##### Fine Arts

1. Sarma, Rabin. **Major quasidramatic performing art forms of the undivided District of Kamrup: A study.** Gauhati. Dr Nabin Chandra Sarma, Reader, Department of Folklore, Gauhati University, Guwahati.

##### Drawing & Painting

1. Bose, Tapasi. **Bharatiya mahila shilpi, 1900-1950.** Rabindra Bharati.

2. Pandey, Sushil Kumar. **Maurya kaleen mrinmayee murtiyon ke sanskritik aur kalatmak sameeksha.** Rabindra Bharati.

##### Music

1. Puraṇḍare, Manohar Nilkanth. **Form, feeling Hindustani music: A comparative study of the aesthetic theories of Hanslick and Langer.** Baroda.

2. Varma, Latha. **Temple Instruments of Kerala.** Madurai.

##### Language & Literature

##### English

1. Aiyangar, Padma. **The absorption of science and technology on the language of twentieth century poetry.** Madras.

2. Badode, Rambhau Mahadu. **A critical study of the novels of Doris Lessing.** Shivaji. Dr C J Jahagirdar, Prof, Department of English, Shivaji University, Kolhapur.

3. Basant Kumar. **Realism and romanticism in the poetry of**

##### Alfred Tennyson. Magadh.

4. Chinoy, Nargis D. **Superstitions in the Elizabethan age with special reference to the plays of Webster, Marlowe and Shakespeare.** Nagpur. Dr P S Shastri, Department of English, Nagpur University, Nagpur.

5. Dwadashiwar, Jaya Suresh. **Quest for identity: A thematic study of the poetry of Kamala Das.** Nagpur. Dr J B Paranjpe, Department of English, Nagpur University, Nagpur.

6. Harode, Reeta Subhash. **Irony in the novels of Sinclair Lewis.** Nagpur. Dr Mehre M Major, Department of English, Nagpur University, Nagpur.

7. Harris, Janet. **Myth metaphor and apocalyptic meaning and new values in the poetry of Robinson Jeffers.** Madurai.

8. Indira, Babbellapati. **Child and adult: A selective study of Anita Desai's novels.** Andhra.

9. Khare, Vidyagauri Anant. **An evaluation of the stories of Katherine Mansfield in the light of her critical ideas.** Nagpur. Dr J B Paranjpe, Department of English, Nagpur University, Nagpur.

10. Kurup, Gopinath. **A critical study of the modern Marxist poetry in English with special reference to Auden Stephan Spender, Cecil Day, Lewis and Louis Mac Neice.** Nagpur. Prof O P Bhatnagar, Vidarbha Mahavidyalaya, Amravati.

11. Radhika, M D. **Self vs The World: Wolfen Hero as a study in fundamental human conflicts.** Calicut. Dr N Ramachandran Nair, Department of English, University of Calicut, Calicut.

12. Sam Sahayam, V. **D H Lawrence and Anita Desai: A comparative study.** Pondicherry. Dr P Marudanayagam, Prof and Head, Department of English, Pondicherry University, Pondicherry.

13. Sundarabai, Shyamala. **Henry James and R Chutamani: A comparative study.** Madurai.

##### Sanskrit

1. Bharathi K. **A comparative study of three editions of Valmiki Ramayana, Baroda edition, Sourthern edition, Eastern edition.** Osmania.

2. Bhowmick, Rita. **A socio-cultural study of the Jaiminiya Brahmana.** Gauhati. Dr S M Roy, Lecturer and Head, Department of Sanskrit, Govt Ayurvedic College, Guwahati.

3. Mehta, Ranjanbala Shantilal. **A psychological study of man and society as reflected in the Satakry of Bhartri Hari.** Saurashtra. Dr V G Parikh.



4. Shrivastava, Pratibha. *Bhasha ke roopkon mein nari patra*. Vikram. Shri Babulal Shukla 'Shastri', Kalidas Academy, Ujjain.

## Hindi

1. Abraham, Mathew P. *The contribution of Malayali writers to Hindi language and literature, 1960-85*. Gandhi. Dr K K Sathyanathan, Prof, Department of Hindi, St Albert's College, Ernakulam.

2. Bose, D Rama Chandra. *Kavi Chatushtai ke atirikt chhayavadi kaviyon ke rechanyon ka manovaigyanik adhyayan*. Osmania.

3. Joshi, Manjula. *Nai kavita ka saidhantik paksha: Dr Jagdish Gupta ke vishesh sandarbh mein*. Vikram. Dr Hari Mohan Budholiya, Department of Hindi, Vikram University, Ujjain.

4. Malathy, K M. *A study of the changing sensibility and new techniques in the Hindi short story after 1960 with particular reference to Kamaleshwar, Nirmal Varma, Manu Bhandari, Avadh Narayan Mudgal, Mridula Garg and Nirupama Sevati*. Calicut. Dr T N Viswambharan, Department of Hindi, University of Calicut, Calicut.

5. Manjanbail, Sunitha Anil. *Dr Shankar Shesh: Vyaktitva evam krititva*. Karnatak. Dr (Smt) Nandini Gundurao, Department of Hindi, Karnatak University, Dharwad.

6. Nargis Abdi. *Chitra rekha ka darshnik evam samajik mulyankan*. AMU. Dr S K Shandiliya, Department of Hindi, Aligarh Muslim University, Aligarh.

7. Nayan Prakash. *Swatantrayottar Hindi upanyason mein videshi jeevan*. Osmania.

8. Parashar, Rajni. *Braj lok kavya mein Krishan ka swaroop*. AMU. Dr G L Sharma, Department of Hindi, Aligarh Muslim University, Aligarh.

9. Paul, Alphonsa. *Sur kavya: Kathya ke vibhinna ayam*. CUST. Dr L Suneeta Bai, Reader, Department of Hindi, Cochin University of Science and Technology, Kochi.

10. Pushpalata, G. *Swatantrayottar kavya mulya chetana*. Osmania.

11. Rathor, Sushma. *Bhagwati Charan Verma ka upanyason mein samaj ka swaroop*. JNU. Prof K N Singh, Centre for Indian Languages, Jawaharlal Nehru University, New Delhi.

12. Sharada Prasad. *Mohan Rakesh ke natak: Vishay aur vidhan*. Sambalpur. Dr Vinay Kumar Pathak, Department of Hindi, Govt Post Graduate College, Bilaspur.

13. Sharma, Beena. *Nirala ka chhayavadottar kavya aur samkaleen Hindi kavita*. JNU. Prof K N Singh, Centre of Indian Languages, Jawaharlal Nehru University, New Delhi.

14. Singh, Archana. *Vyangakar Harishankar Parsai aur unka sahitya*. Karnatak. Dr S C Chulkimath, Reader, Department of Hindi, Karnatak University, Dharwad.

15. Sinha, Raman Prasad. *Samkaleen kavya vikas aur Shamsheer ke kavya ke mulyankan ke samasayen*. JNU. Dr SP Sudhesh, Centre of Indian Languages, Jawaharlal Nehru University, New Delhi.

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2. Surti, Samina Amatul Aziz. *Interaction of physiology and psychology in the phonology of Bhopal Urdu*. AMU. Prof Abdul Azim, Department of Linguistics, Aligarh Muslim University, Aligarh.

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1. Chatterjee, Mangala. *Rabindrasahitya narimuktir chetna*. Rabindra Bharati.

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1. Rath, Prabhati. *Rupanwesikavi O'tar kavya sansar: Mansingh kavitar anusheelana*. Sambalpur. Dr S C Pradhan, Prof, Department of Oriya, Sambalpur University, Jyoti Vihar, Burla.

## Marathi

1. Deshpande, Dattatraya Venkatesh. *Shri Parbraham Gopalnath Maharaj Triputi: Vyakti ani vangmaya*. Shivaji. Dr Shivajirao Chunan, Kisan Veer Mahavidyalaya, Wai, Distt Satara.

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# UNIVERSITY GRANTS COMMISSION

## Academic Staff Colleges — Schedule of Refresher Programmes during 1991-92.

The University Grants Commission has identified about 175 University Departments/Institutions to conduct subject-oriented refresher programmes in Sciences, Humanities and Social Sciences during 1991-92 for in-service teachers with more than 5 years of continuous service as Lecturer in Universities and Colleges. While 85-90 per cent of the teachers will be enrolled from the catchment area at the notified centres, 10-15 per cent of teachers will be from any University or College on an all — India basis. Teachers selected for the courses are to be treated as on duty with full pay and allowances by the sponsoring authority/College. The host Institution will provide lodging to outstation participants and TA will be paid to them as per ASC rules.

The schedule of refresher courses during 1991-92, as received from the Universities/Institutions, is indicated at below :—

S.No.	Name of the University/ Institution	Proposed Schedule for 1991-92	Catchment Area (Region)
1.	2.	3.	4.
<b>1. CHEMISTRY</b>			
	Delhi University	30-09-91 to 19-10-91 01-10-91 to 21-10-91 20-12-91 to 09-01-92 23-12-91 to 12-01-92	North (Delhi, Haryana)
	NEHU, Shillong	23-09-91 to 12-10-91 25-11-91 to 14-12-91 09-03-92 to 28-03-92	East (Assam, NE, West Bengal)
	Devi Ahilya Indore	02-09-91 to 22-09-91 09-12-91 to 29-12-91 03-02-92 to 24-02-92 04-03-92 to 25-03-92	Central (M.P.)
	Punjab University	09-12-91 to 27-12-92	North (Punjab, J&K, H.P.)
	Madras University	18-09-91 to 12-10-91 07-11-91 to 30-11-91 04-12-91 to 27-12-91	South (T.N. Kerala, Pondicherry)
	I.I.Sc. Bangalore	23-02-92 to 08-03-92	All India
	Rajasthan University	27-08-91 to 16-09-91 23-12-91 to 12-01-92 27-01-92 to 16-02-92	Central (Rajasthan)
<b>2. BIO CHEMISTRY</b>			
	Delhi University	05-10-91 to 25-10-91	All India
<b>3. PHYSICS</b>			
	Devi Ahilya, Indore	07-10-91 to 28-10-91 03-02-92 to 24-02-92 04-03-92 to 25-03-92	Central (M.P.)
	Andhra University	01-08-91 to 07-09-91 21-10-91 to 16-11-91	South (Andhra)
	B.H.U. Varanasi	October/November 1991 February/March 1992	North
	I.I.Sc. Bangalore	10-03-92 to 28-03-92	All India
	Rajasthan University	27-08-91 to 16-09-91 23-12-91 to 12-01-92 27-01-92 to 16-02-92	Central (Raj.)
	Poona University	07-10-91 to 02-11-91 07-10-91 to 02-11-91 06-01-92 to 01-02-92 02-03-92 to 28-03-92	West
	Gauhati University	24-10-91 to 13-11-91 07-01-92 to 27-01-92 06-02-92 to 26-02-92	East (Bihar, Assam NE, States)

<b>4. BOTANY</b>			
Calicut University	02-09-91 to 28-09-91 21-10-91 to 16-11-91 06-01-92 to 01-02-92	South (Kerala)	
Madras University	12-08-91 to 05-09-91 16-09-91 to 11-10-91 07-10-91 to 01-11-91	South (T.N. Andhra, Pondicherry)	
B.H.U. Varanasi	September/October, 91 December 91/January, 92	North (U.P. Delhi, Haryana)	
Karnataka Univ.	23-09-91 to 12-10-91 02-12-91 to 21-12-91	South (Karnataka)	
Lucknow Univ.	01-10-91 to 30-10-91 01-12-91 to 30-12-91 01-02-92 to 28-02-92	North (U.P. H.P. Punjab J&K)	
Jodhpur University	22-07-91 to 10-08-91 14-10-91 to 02-11-91	Central, West	
<b>ZOOLOGY</b>			
Marathwada Univ.	11-11-91 to 07-12-91	West (Maharashtra, Goa)	
Bharathiar Univ.	11-09-91 to 03-10-91 03-11-91 to 04-12-91 10-12-91 to 31-12-91 27-01-92 to 18-02-92	South (T.N. Kerala, Pondicherry.)	
Gujarat University	01-08-91 to 21-08-91 09-09-91 to 28-09-91	West (Gujarat)	
BHU, Varanasi	August/September, 91 January/February, 92	North (Delhi, U.P. H.P.)	
Rajasthan Univ.	05-08-91 to 24-08-91 23-12-91 to 12-01-92	Central	
<b>6. MATHEMATICS</b>			
A.M.U. Aligarh	16-09-91 to 14-10-91 24-02-92 to 25-03-92	North (U.P., Delhi)	
Punjab University	March, 92	North (Punjab, J&K, H.P. Haryana)	
Madras University	05-08-91 to 29-08-91 27-11-91 to 20-12-91 20-01-92 to 13-02-92	South (T.N., Kerala, Pondicherry)	
B.H.U. Varanasi	July/August, 1991	North (U.P.)	
Bihar University	5th August, 91 9th September, 91 18th November, 91 15th January, 1992.	East (Bihar, Orissa)	
<b>7. STATISTICS</b>			
Gujarat University	01-08-91 to 21-08-91 02-12-91 to 21-12-91	West/Central/North	
Karnataka University	01-09-91 to 21-09-91 02-03-92 to 21-03-92	South	
Indian Statistical Institute, Calcutta	December, 1991	East	
<b>8. EARTH SCIENCE</b>			
Bharathidasan, Tiruchy	04-09-91 to 01-10-91 03-12-91 to 30-12-91 17-01-92 to 13-02-92	All India	
<b>9. ANTHROPOLOGY</b>			
Delhi University	03-10-91 to 23-10-91	North/West (U.P. Delhi)	
Punjab University	21-10-91 to 15-11-91	North/Central (Punjab, J&K, H.P. Haryana).	
<b>10. LIFE SCIENCE</b>			
Guru Nanak Dev Univ. Amritsar	20-09-91 to 17-10-91 01-12-91 to 28-12-91	North/Central/West	
<b>11. HOME SCIENCE</b>			
Institute of Home Science, New Delhi	23-09-91 to 11-10-91	North/West (U.P.)	



## 12. ECONOMICS

Delhi University	26-09-91 to 16-10-91 19-12-91 to 08-01-92	North/Central (Delhi, U.P.)
Gokhale Instt. of Economics & Politics, Poona	16-12-91 to 03-01-92	West (Maharashtra, Goa).
Guru Nanak Dev Univ. Amritsar.	01-12-91 to 28-12-91	North (Punjab, J&K, H.P., Haryana)
Andhra University	21-10-91 to 16-11-91	South (Andhra, Karnataka)
J.N. University, New Delhi	02-12-91 to 27-12-91	All India
Pondicherry Univ.	03-03-92 to 30-03-92	South (T.N. Kerala Pondicherry)

## 13. SOCIOLOGY

Marathwada Univ.	02-09-91 to 28-09-91 20-01-92 to 15-02-92	West (Maharashtra Goa).
Gujarat University	14-10-91 to 02-11-91 25-11-91 to 15-12-91 10-03-92 to 31-03-92	West (Gujarat)
J.N.U. New Delhi	26-08-91 to 13-09-91 06-01-92 to 31-01-92	South/East
Lucknow University	02-09-91 to 30-09-91 09-11-91 to 08-12-91 01-01-92 to 30-01-92	North
Jodhpur University	23-09-91 to 12-10-91 28-01-92 to 16-02-92	Central

## 14. SOCIAL WORK

T.I.S.S. Bombay	July/August, 1991 October/November, 91 January/February, 92	West/South/East
Jamia Millia Islamia	12-12-91 to 31-12-91	North/Central

## 15. HISTORY

A.M.U. Aligarh	12-08-91 to 10-09-91 06-01-92 to 01-02-92 24-02-92 to 25-03-92	North (U.P.)
Goa University	27-11-91 to 18-12-91 05-03-92 to 26-03-92	West
Karnataka Univ.	11-11-91 to 30-11-91	South
Jamia Millia Islamia	09-09-91 to 30-09-91	North/Central Delhi)

## 16. PHILOSOPHY

Pondicherry Univ.	06-01-92 to 02-02-92	South
Gauhati University	27-08-91 to 16-09-91 02-01-92 to 22-01-92 06-03-92 to 26-03-92	East

## 17. LIBRARY SCIENCE

A.M.U. Aligarh	12-08-91 to 10-09-91 06-01-92 to 01-02-92	North/Central
Gujarat Vidyapith	05-09-91 to 02-10-91 06-01-92 to 03-02-92	West
Osmania University	11-11-91 to 07-12-91	South

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Delhi University	01-08-91 to 28-08-91 28-09-91 to 18-10-91 18-12-91 to 07-01-92 22-12-91 to 11-01-92	North (Delhi, Haryana)/Central
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H.P. University	05-09-91 to 25-09-91	North (H.P., J&K, Punjab)
Andhra University	12-08-91 to 07-09-91 08-10-91 to 02-11-91	South (A.P., Karnataka)

Gauhati University	28-10-91 to 17-11-91 04-02-92 to 24-02-92	East
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## 19. POLITICAL SCIENCE

NEHU, Shillong	05-08-91 to 24-08-91 21-10-91 to 09-11-91 17-02-92 to 07-03-92	East (Assam, NE State West Bengal)
Punjab University	06-01-92 to 31-01-92	North (Punjab, J&K Haryana, H.P.)
Goa University	16-08-91 to 06-09-91 05-02-92 to 26-02-92	West (Goa, Gujarat)
J.N.U. New Delhi	28-10-91 to 25-11-91	North (Delhi, U.P.)
Dr. H.S. Gour	14-10-91 to 02-11-91 10-02-92 to 18-03-92	Central
Osmania University	19-08-91 to 13-09-91 11-12-91 to 08-01-92 19-02-92 to 18-03-92	South

## 20. PSYCHOLOGY

Madras University	17-09-91 to 12-10-91 03-10-91 to 29-10-91 27-01-92 to 19-02-92	South
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A.M.U. Aligarh	16-09-91 to 14-10-91 11-11-91 to 09-12-91	North/West (U.P.)
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S.P. University	02-09-91 to 22-09-91 03-02-92 to 23-02-92	West

## 25. MALYALAM

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Kerala University	10-10-91 to 06-11-91 02-02-92 to 18-03-92	South (Kerala)
H.P. University	12-08-91 to 31-08-91 21-10-91 to 09-11-91 10-02-92 to 29-02-92	North (U.P., Punjab J&K, Delhi, Haryana).
Bharathidasan Univ.	07-11-91 to 04-12-91 04-03-92 to 31-03-92	South (T.N. Pondicherry)
Rajasthan University	17-09-91 to 07-10-91 22-11-91 to 11-12-91 02-03-92 to 22-03-92	Central
Lucknow University	01-08-91 to 30-08-91 01-10-91 to 30-10-91	North (U.P.)
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	Lucknow University	01-08-91 to 30-08-91 01-10-91 to 30-10-91 01-12-91 to 30-12-91	North (U.P.)	41. TIBETAN STUDIES	B.H.U. Varanasi	March, 1992	All India
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KOLHAPUR

Applications are invited for the following posts in the University Post Graduate Departments at Kolhapur and Solapur.

**PROFESSOR (9 posts) :** One each in (1) **Chemistry** (Structural Inorganic Chemistry), (2) **Zoology** (Animal Physiology / Entomology or Environmental Biology), (3) **Botany** (Mycology/Plant Protection) (ST), (4) **Physics** (Solid State Physics) (Experimental-Semiconductors) (SC), (5) **Politics** (Public Administration) (ST), (6) **Library Science** (Library and Information Science), (7) **Education** (ST), (8) **Physics** ( for Solapur Centre ) (Applied Industrial Electronics), (9) **English** (Linguistic and Contemporary English/American Literature) (DTVJ).

(10) **DIRECTOR** (1 post) in Adult and Continuing Education and Extension Work Department upto 10-1-1996, but likely to be continued.

**READER (8 posts) :** One each in (11) **Chemistry** (Inorganic Chemistry), (12) **Botany** (Cytogenetics) (DTVJ), (13) **Botany** (Mycology and Plant Pathology), (14) **Physics** (Electronics) (SC), (15) **Geography** (ST), (16) **Statistics** (Demography/Statistical Ecology) (DTVJ), (17) **Journalism and Communication Science**, (18) **Marathi** (i) Modern Marathi Literature, (ii) Sociology of Literature (SC),

(19) **ASSISTANT DIRECTOR** (1 post) : (Continuing Education and Extension Work) in the Adult and Continuing Education and Extension Work Department upto 31-2-1991, but likely to be continued.

**LECTURER (7 posts) :** One each in (20) **Chemistry** (DTVJ), (21) **Physics**, (22) **Physics**, (23) **Physics** (ST), (24) **History** (upto 23-1-92 but likely to be continued), (25) **Political Science** ( upto 17-12-92) but likely to be continued), (26) **Marathi** (ST).

(27) **PROJECT OFFICER** (1 post) : (Continuing Education and Extension Work Department) (ST),

**Note :** (i) If suitable qualified candidates belonging to respective reserved categories are not available, the candidates from remaining categories of backward classes will be considered for the appointments.

ii) If suitable qualified candidates belonging to reserved categories are not available, then the candidates from open category will be considered for appointment for one academic year only.

**PAY SCALES :** Professor/Director : Rs. 4500-150-5700-200-7300. Reader/Asstt. Director : Rs. 3700-125-4950-150-5700. Lecturer/Project Officer : Rs. 2200-75-2800-100-4000.

**QUALIFICATIONS :** Professor : (i) An Eminent scholar with published work of high quality, actively engaged in research., and (ii) About ten years' experience of teaching and/or research. Experience of guiding research at Doctoral level.

OR

An outstanding scholar with established reputation, who has made significant contribution to knowledge.

**Director :** (i) A person with outstanding contribution in the field of Adult, Continuing Education and Extension Work or a person with at least 10 years experience in his/her discipline and 3 to 5 years experience in Adult

and Continuing Education and Extension Work.

(ii) Ph.D. in his/her discipline preferably in an area of Social Sciences or an area allied to Adult Education or equivalent research work or publication to his/her credit.

iii) Experience of guiding research students will be desirable.

**Reader :** (i) Good academic record with a Doctoral Degree or equivalent published work. (ii) Evidence of being actively engaged in (a) research or (b) innovation in teaching methods or (c) production of teaching materials. (iii) About five years' experience of teaching and/or research provided that at least three of these years were as Lecturer or in an equivalent position. This condition may be relaxed in the case of candidates with outstanding record of teaching/research.

**Assistant Director :** (a) (i) Ph.D./M.Phil. degree with a Second Class Master's degree, or (ii) High second class Master's degree (B+) or (iii) Second class Master's degree with First class Bachelor's degree. (b) About five years' experience of field work/teaching or research in a subject having bearing on Adult/Continuing Extension/Community/Non-formal Education or Community Development. This condition may be relaxed on the recommendation of the Selection Committee.

**Lecturer :** (i) Master's degree in the relevant subject with at least 55% marks, or its equivalent grade at Master's or equivalent Examination; and also good academic record. (ii) Passed UGC/CSIR NET Examination.

OR

In the case of candidates who have already obtained the M.Phil./Ph.D. degree and who have been exempted from appearing in the eligibility test for recruitment to the post of Lecturer, the minimum qualifications prescribed are as under :

a) A doctorate degree or research work of an equally high standard; and

b) Good academic record with at least Second class (C in the seven point scale) Master's degree in a relevant subject from an Indian University or an equivalent degree from a foreign University.

Having regard to the need for developing inter-disciplinary programmes, the degrees in (a) and (b) above may be in relevant subjects.

**Project Officer :** Essential (i) Good academic record in the subject of Adult / Continuing / Community / Extension Education / Community development from a recognised Indian University or an equivalent degree from a Foreign University. (ii) M.Phil. or Ph.D. in a subject related to adult learning or Ph.D. in a subject under Social Sciences or Education or Evidence of published research learning materials and learning resources on areas listed in (i) above or published research in any of the relevant area/areas indicated above. OR (i) Good academic record in Social Sciences/Social Work/ Humanities / Education/Sciences/Home Sciences. (ii) Post Master's Diploma in Adult and Continuing Education from a recognised Indian University or an equivalent diploma/degree from a foreign university. (iii) M.Phil. or Ph.D. in a subject related to adult learning or a Ph.D. in a subject under Social Sciences or Education or Evidence of Published learning materials and learning resources on areas listed in Adult/Continuing/Community/Extension/Education/Community Develop-

ment or published research in any of these area/areas.

**Desirable :** Two years' experience of field work on a subject having bearing on Adult / Continuing / Extension/Community/Non-formal Education/Community Development. OR Two years teaching experience in the subject of Adult and Continuing Education at Graduate/Postgraduate levels.

Prescribed application forms (TEN copies) can be had from the University Office. Desirous candidates are requested to send D.D. of Rs. 25/- only mentioning without fail the Sr. No. of the post indicated in the advertisement for which they send their application.

TEN copies of application alongwith necessary enclosures attached to each copy of the application should reach THE REGISTRAR, SHIVAJI UNIVERSITY, VIDYANAGAR, KOLHAPUR-416 004 on or before 10-9-1991.

Dr. B.P.Sabale  
REGISTRAR

## MAR ATHANASIOUS COLLEGE ASSOCIATION

KOTHAMANGALAM, KERALA

Applications for the following posts in The Mar Athanasius College of Engineering, Kothamangalam are invited in the prescribed form so as to reach the undersigned within 30 days from the date of this advertisement.

**Category (1) Lecturer in Mechanical Engineering** on Rs.2200-75-2800-100-4000 (AICTE Scale)

Anticipated vacancy : 1

(2) **Tradesman - Welding** on Rs.805-20-925-25-1100-30-1190. Vacancy : 1.

(3) **L.D.Clerk - on Rs. 825-20-925-25-1100-30-1250-40-1290.**

Anticipated Vacancy : 1

**Minimum Qualifications:**

**Category (1) Ist class Bachelor's degree** in Mechanical Engineering/Technology.

(2) Recognised Trade Certificate in Welding approved by Government of Kerala.

(3) A pass in the SSLC examination.

Application forms and other details can be had from the Principal, M.A.College of Engineering, Kothamangalam-686 666 on request enclosing a self-addressed envelope 23 x 10 cm affixing stamp worth Re.1/- and a postal order for Rs.2/- towards the cost of form. Filled up applications are to be sent to the undersigned.

SECRETARY

## REGIONAL ENGINEERING COLLEGE

SILCHAR (ASSAM) 788 010

ADVERTISEMENT No. 2/91 (Estt)

Dated Silchar, the 5th August, 1991

Applications are invited from the citizens of India for the following posts :-



1. Professor in Computer Science and Engg.-1/Electronics and Tele-Com. Engg.-1/Civil Engg.-1/Mechanical Engg.-1(Likely vacancy).
2. Asstt. Professor in Computer Science and Engg.-2/Electronics and Tele-Com. Engg.-2.
3. Lecturer in Computer Science and Engg.-3 (2 posts in Programming)/Mathematics-3/Humanities-1(English)/Mechanical Engg.-5(1 post under Applied Mech. Engg. Deptt.)/Civil Engg.-1.
4. Professor Training Placement and Students Welfare-1.
5. Librarian-1.

**Scale of Pay**

1. Professor:- Rs. 4500-150-5700-200-7300/- P.M.
2. Asstt. Professor :- Rs. 3700-125-4950-150-5700/- P.M.
3. Lecturer:- Rs. 2200-75-2800-100-4000/- P.M.
4. Professor Training Placement and Students Welfare :- Rs. 4500- 150-5700-200-7300/- P.M.
5. Librarian : Rs. 2200-75-2800-100-4000/- P.M.

**Requisite qualification and experience for the post of Professor:-**

(i) Ph.D. with 1st class degree at Bachelor's or Master's level in Engineering/Technology.

(ii) 10 (Ten) years experience in Teaching/Industry/Research out of which 5 (Five) years must be at the level of Asstt. Professor or equivalent.

Note :- Candidates from Industry/Profession with recognised Professional work of high standard recognised at National/International level equivalent to Doctorate would also be eligible.

**Requisite qualification and experience for the post of Asstt. Professor :** (i) First class Master's degree in appropriate branch of Engineering/Technology.

(ii) 5 (Five) years experience in Teaching/Industry/Research at the appropriate level.

Note : Candidates from Industry/Profession with recognised Professional work equivalent to Master's degree in the case of Engg./Tech. would also be eligible.

Desirable :- Ph.D. degree in Engineering/Technology.

**Requisite qualification and experience for the post of Lecturer in Engineering subjects :-** 1st Class Bachelor's degree in appropriate branch of Engineering/Technology.

**Requisite qualification and experience for the post of Lecturer in Mathematics and Humanities (English) :-** 1st Class Master's degree in appropriate branch of study. Further for a post of Lecturer in Mathematics, a Master's degree in statistics or operations Research with Mathematics as one of the subject in the Bachelor degree level may also apply.

**Requisite qualification and experience for the post of Professor Training Placement and Students Welfare :-** (i) Ph.D. with 1st class degree at Bachelor's or Master's level in Engineering/Technology.

(ii) 10(Ten) years experience in Teaching/Industry/Research out of which 5(Five) years must be at the level of Asstt. Professor or equivalent.

Note :- Candidates from Industry/Profession with recognised Professional work of high standard recognised at National/International level equivalent to Doctorate would also be eligible.

Apart from Training and Placement work, he will also take classes on his branch of study.

Desirable :- (i) Industrial experience and experience in organising Industrial training programmes/campus interviews etc. (ii) Involvement in Entrepreneurial Development activities.

(iii) Experience in developing corporate life among the students.

**Requisite qualification and experience for the post of Lecturer in Computer Science and Engg. :-** 1st Class Bachelor's degree in Computer Science and Engg.

Desirable :- (a) Should have thorough knowledge of UNIX and DOS operating system, C, PASCAL, DATABASE etc. (b) Experience in System Management of HP 9000 series or similar type of computers.

**Requisite qualification and experience for the post of Librarian :-** Essential - A Master degree in Arts/Science or Commerce with degree in Library Science from a recognised University.

Desirable :- 5 (Five) years experience in a Library preferably Technical Institute in a responsible position.

**Specialisation :-** In any one or more of the following fields.

1. Professor in Civil Engg. :- Environmental Engg. & Sc/ Transportation Engg./Structural Engg./Surveying/Water Resources Engg.

2. Professor in Electronics & Tele-Com. Engg. :- (a) Microwave Engg. (b) Communication (c) Signal Processing.

3. Professor in Computer Science & Engg. :- (a) Computer architecture & Parallel processing (b) Algorithm and Data Structures (c) Computer aided design and computer graphics (d) Computer networking & Communication (e) Data base management systems (f) Software Engg.

4. Asstt. Professor in Electronics and Tele-Com. Engg. :- (a) Instrumentation (b) Control Engg. (c) Circuits and Systems (d) Communication Engg.

5. Asstt. Professor in Computer Science & Engg. :- (a) Computer architecture & parallel processing (b) Algorithm & Data structures (c) Computer aided design and Computer graphics. (c) Computer networking & Communication (e) Data base management systems (f) Software Engg.

6. Professor in Mechanical Engg. :- (a) Production Engg. (b) Heat Power (c) Machine Design (d) Industrial Engg.

7. Lecturer in Mathematics :- Desirable specialisation:- (i) Continuum Mechanics (ii) Computational fluid Mechanics (iii) Computer programming (iv) Operations Research (v) Mathematical Statistics, (vi) Quality Control.

Application in plain appear (Typed) giving full Bio-data, Date of birth, Academic qualifications, Permanent and Correspondence address, Particulars of publications (in case of Teaching posts), Details of present emoluments showing the scale of pay, One copy of recent passport size photograph, Present Basic pay, Dearness allowances and other allowances, Caste and Community and non-refundable Indian Postal Order of Rs. 20/- (Rupees Twenty) and Rs.10/- (Rupees Ten) only for the candidates belonging to Schedule Caste/Schedule Tribes in favour of Principal & Secretary, BOG, Regional Engg. College, Silchar should reach the undersigned on or before 23rd September, 1991 alongwith the attested copies of certificates.

The authority reserves the right to increase or decrease the number of posts, to fill-up or not to fill-up the posts or to call only selected candidates for interview after necessary screening. Interim correspondence in connection with the application will not be entertained.

Candidates already in service should send their application through their present employer or to submit "NO OBJECTION CERTIFICATE" from their employer at the time of application.

Job responsibility of teachers will be guided by the approved norms of AICTE. The incomplete application and application received after due date will be rejected. The candidates who desires to apply for more than 1(One) post will have to submit separate application alongwith required IPOs and certificates.

In case of Lecturer in Engineering subjects 2 and 4 advance increments at the minimum of the scale as per AICTE norms will be given who possess Master's and Doctoral Degree respectively.

In case of Lecturer in Science and Humanities 1 and 3 advance increments at the minimum of the scale as per AICTE norms will be given who possess M.Phil and Ph.D. degree respectively.

The application should be sent in a Cover superscribing "the application for the post applied-for and Advertisement No.". A candidate if not found suitable for the post applied-for may be considered for the lower post, if vacancy exists.

The candidates who applied for the post of Professor in Computer Science and Engg. and Electronics and Tele-Com. Engg. earlier against our Advertisement No. 1/90(Estt) need not apply afresh.

For the post of Professor 1st Class Railway fare and for the post of Asstt. Professor, Lecturer, Librarian 2nd Class Railway fare by the shortest route will be admissible to the candidates for up and down journey on production of Railway ticket or Money Receipt for appearing in the interview. Dearness allowances not admissible.

**PRINCIPAL & SECRETARY**  
**Board of Governors**  
**Regional Engg. College**  
**Silchar-788 010 (Assam)**



# University News

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MONDAY, AUGUST 26, 1991

Rs. 2.50

## Telugu Varsity Convocation

Right : Shri P.V. Narasimha Rao, Prime Minister of India, delivering the convocation address.

Below : L to R : Prof. C. Narayana Reddy, Vice-Chancellor, Shri Krishan Kant, Governor of Andhra Pradesh & Chancellor presenting the D.Litt. Degree (Honoris Causa) to Shri Nanduri Rama Mohan Rao and Shri K. Jaggayya.





## CLASSIFIED ADVERTISEMENTS

### HIMACHAL PRADESH UNIVERSITY

'Recruitment Branch'  
SHIMLA-171005.

#### ADVERTISEMENT No.3/91

Applications are invited (on prescribed form) for the following teaching/non-teaching posts, so as to reach the Assistant Registrar, Recruitment Branch, H.P. University, Summer Hill, Shimla-171005, along with a crossed Indian Postal Order of Rs.20/- (Rs. 10/- for S.C./S.T.) payable to the Finance Officer, HPU by September 28,1991:.

I. PROFESSOR (Pay Scale: Rs. 4500-7300) in the following subject of teaching department :

Modern Indian History-1.

II. READERS (Pay Scale : Rs. 3700-5700) in the following subjects of teaching departments:

Chemistry-1 (Spl.in Organic/Inorganic/Analytical/Spectroscopy/Physical Chemistry), Education-1(Spl. in Educational Psychology), Music-1, Political Sci-1.

#### PLAN POSTS :

Geography-1, Mathematics-1. Statistics-1.

III. LECTURERS (Pay Scale:Rs.2200-4000) in the following subjects of teaching departments:

Bot/Zool-1(leave vacancy upto 31.3.91), Russian-1, Education-1.

Lecturer-1(for Academic Staff College)

IV. CONTROLLER OF EXAMINATIONS-1 (Pay Scale:Rs.4500-7300).

The qualifications for the above mentioned posts are the same as per U.G.C. guidelines and adopted by this University from time to time.

Candidates already in service should send their applications through proper channel. An advance copy, however, may be sent direct.

Candidates called for interview will have to come to the place of the interview at their own expenses and bring with them their original research papers, degrees, and certificates etc. for verification.

The University reserves the right to negotiate with suitable person or persons, if necessary, who may not have applied formally.

The University also reserves the right to fill-up or not to fill-up the post/s or to call only suitable candidates for interview. The number of posts likely to be filled may vary.

As per University rules, 15% and  $7\frac{1}{2}$  %

posts of Lecturers will be reserved for Scheduled Castes and Scheduled Tribes candidates respectively.

Application form along with detailed qualifications can be obtained from the Assistant Registrar, Recruitment Br., H.P. University, Shimla-5 personally on payment of Rs.5/- or by making a written request to him accompanied by self-addressed envelope of 23x10 cms. with postage stamps affixed worth Rs.2/- and a postal order of Rs.5/- drawn in favour of Finance Officer.

NOTE: i) Applications received on plain paper, applications not in conformity with the requirements as specified in the application form and applications received after the last date will not be entertained and

no correspondence will be entertained in this regard.

ii) A person applying for more than one post should send a separate application for each post.

iii) Persons who have applied earlier in response to Advt. No.3/90, dated June 18, 1990 for the posts of Reader in Chemistry, Education, Music, Pol.Science, Lecturer Academic Staff College, and Advt.No.6/88, dated 17.11.1988 for the post of Controller of Examinations need not to apply again. However, they may send additional informations, if any.

A.R.Chauhan  
REGISTRAR

## INDIAN COUNCIL OF MEDICAL RESEARCH

(Advt. No. 7/91 Hqrs. Office)

Applications are invited upto 20.9.1991 for the post of Senior Research Officer (Medical) in the scale of pay of Rs. 3000-100- 3500-125-4500 in the Hqrs. Office of the Council.

#### QUALIFICATION AND EXPERIENCE :- Essential:

i) MBBS from a recognised university with at least 6 years research experience on clinical/experimental evaluation of Medicinal Plants/traditional remedies in a reputed teaching/research organisation. OR ii) Doctorate or equivalent postgraduate degree in a bio-medical subject (like Medicine, Paediatrics, Pharmacology, Pathology, Microbiology, Preventive & Social Medicine and related disciplines) with two years research experience preferably in clinical and experimental evaluation of medicinal plants/traditional remedies. THOSE WHO DO NOT POSSESS THE MINIMUM BASIC QUALIFICATION IN MODERN MEDICINE (i.e. M.B.B.S.) AND THOSE WHO HAD ALREADY APPLIED FOR THE POST IN RESPONSE TO EARLIER ADVERTISEMENTS NEED NOT APPLY AGAIN.

Desirable :- A doctorate or equivalent postgraduate medical qualification.

Job Description :- The incumbent is expected to assist in monitoring ongoing/experimental and clinical studies on selected traditional remedies/medicinal plants in different parts of India.

iii) Managerial and technical aspects of research strategies of ICMR in the field of traditional medicine research.

AGE : Below 45 Years.

CONDITIONS : Candidates called for interview will be paid 2nd Class return fare on production of documents. Non-practising allowance is admissible to Medical Graduates only as per Rules of the Council. Private practice is not allowed. Service under the Council is pensionable. The period of experience prescribed is relaxable at the discretion of the competent authority.

Application from employees working in Govt. Departments, Public Sector Organisations and Govt. funded research agencies should be forwarded through proper channel.

Application forms and other details can be obtained from the office of the Director General, Indian Council of Medical Research, Ansari Nagar, New Delhi - 110029.

Forms duly completed together with attested copies of certificate/testimonials in support of educational qualification/experience etc. should be sent to the Director General, Indian Council of Medical Research, Ansari Nagar, New Delhi - 110 029, along with a crossed Indian Postal Order for Rs. 8/- payable to D.G., I.C.M.R., New Delhi. SC/ST Candidates are exempted from this payment.

Incomplete and late applications will not be entertained. Application fee for such Candidates will not be refundable.



# UNIVERSITY NEWS

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## IN THIS ISSUE

Interaction Between Society and Higher Education in India	2
Book Imports : Librarians' Assessment	6
NELIBNET – A Promise of Prospect for Northeast India	9
Convocation Telugu University, Hyderabad	14
Campus News Orientation Programme at Jodhpur University	17
Central Status for Bangalore University	18
World Population Day	19
Fostering Punjabi Language, Art & Culture	19
Agriculture Agricultural Officers Workshop	19
New Research Project for PAU	20
News from UGC Countrywide Classroom Programme	20
Spot Evaluation of Colleges	21
Research in Progress	23
Theses of the Month	24
Classified Advertisements	C-3

Opinions expressed in the articles  
are those of the contributors and do  
not necessarily reflect the policies  
of the Association.

Editor :

SUTINDER SINGH

# The Nucleus of University Life

K. Venkata Reddy

Man is essentially a social being and, therefore, mutual education is one of the great and incessant occupations of human society. Every man, right from infancy, owes more than can possibly be estimated to his fellow-creatures. Why, for that matter, our very outlook on life is coloured by what we get from social intercourse than from what we derive from books.

Yet, how many of us realize that a University is first and foremost a corporation, a place of concourse whither students come from various quarters to learn mostly by the very personal contacts with each other as well as with their teachers. We only tend to regard the study of books, attendance at lectures, the passing of examinations and getting the degrees as the chief components of a university life.

We do not seem to be sufficiently aware of the great many benefits which students necessarily derive from intercourse among themselves. As Newman rightly pointed out long back "when a multitude of young man, keen, open-hearted, sympathetic and observant, as young men are, come together and freely mix with each other, they are sure to learn from one another, even if there be no one to teach them; the conversation of all is a series of lectures to teach, and they gain for themselves new ideas and views, fresh matter of thought, and distinct principles for judging and acting, day by day".

It is, therefore, very essential that universities in our country should be organized on the basis of personal communication between students. No doubt, in most of the universities provision is made for suitable residential quarters for students. But the hostel system must not be regarded as a mere practical convenience, but as a most potential source of mutual education because meaningful social intercourse between a large body of students differing in character and taste, in attainment and ambition, congregated together in the pursuit of knowledge is the very nucleus of university life.

It is high time more attention was paid to the residential life of university students and more and more opportunities created for working in intimate and constant association with their fellow-students. The 'enlargement of mind', which every student must acquire, comes not so much from books or lectures as from that intimate personal contact with his fellows. For, as the students come from very different places and with widely different notions, there is much to generalize, much to adjust, much to eliminate, much to learn from each other, in the process by which the mind is enlarged and the heart is softened.

Once the universities recognize the far-reaching importance of social intercourse in the learning process of students, and lay as much emphasis on informal education as on formal education, they would be in a position to send out students who are well fitted to meet the challenges of life confidently and successfully. In such ideal universities, if some students do not make a mark in academic work, and even if by any chance they fail to obtain a degree it cannot be held that they have gained nothing by their residence at a university nor that their education has been a failure or waste of time. For, what more is expected of a university education than properly preparing the student to live well facing life with full confidence and cheer thereby giving his best to the world.

*\*Professor of English, Sri Krishnadevaraya University,  
Anantapur-515 003. (A.P.)*



# Interaction Between Society and Higher Education in India

Hans Raj Gugnani\*

## I

### Overview

One of the striking features of higher education scene in India since the fifties is the "enrolment explosion". The student enrolment in colleges and universities increased from 3.97 lakhs in 1950-51 to 31.33 lakhs in 1982-83 and to 35.00 in 1990-91.

Impressive, as this growth may appear, it is still only the fringe of the population that is covered by higher education. The number enrolled in higher education, in percentage of population of the age group 20-24 in 1978, was just 8% and it is estimated to be not more than 10% today. For a society still dominated by nearly 60% of non-literate population, the number covered by higher education would appear just marginal, if not microscopic, on the one hand; while, on the other, there has been a continuous growing urge for higher education, as evidenced by phenomenal growth in student enrolment since the fifties. These are interesting phenomena for a study of interaction between society and institutions of higher education in the country.

A few other significant features of relevance for this study are the following :

(i) the distribution of the benefits of higher education amongst different sections of our society;

(ii) the relevance of the present higher education system to our developing society; and

(iii) the changing trends in the enrolment patterns amongst different disciplines in relation to changes in employment patterns and other socio-economic, intellectual and cultural needs of our society.

## II

### Beneficiaries

While discussing distribution of benefits an observation that comes foremost to the mind is that the educational system, and particularly the higher educational system is highly tilted in favour of the elite and grossly indifferent towards the common man, notwithstanding

the loud professions of democratisation of education. While the formal education system today has more than 700,000 institutions; about 3.5 million teachers, over 100 million students; and an annual expenditure of Rs.25 billion it hardly benefits the common people who are poor. Most of them are illiterate. A large proportion of their children do not go to school and most of those who do, drop out sooner rather than later. The main beneficiaries of the educational system (which over emphasises secondary and higher education that receives about 60 percent of the total educational expenditure) are really the rich and well-to-do classes who form the top 30 percent of the income-groups and occupy about 70 percent of the places at the secondary stage and about 80 percent of seats at the university stage. In the sphere of higher education, there has been about 1000 percent increase in the number of university students since independence in 1947, the lion's share of which has gone to the top 20 percent of the income groups.

## III

### Relevance

The rapid numerical expansion of higher education in the last few decades could be appreciated not only because of the value, and power of higher education but more because of the urgent social and developmental needs of society to satisfy the urges and expectations of the newly liberated people. However, the rich, the well-to-do and the middle income sections of the society — the main beneficiaries of higher education — were perhaps least concerned with either the rational relationship of higher education with sound academic reasons or with planned developmental considerations. As higher education carried the price tags, these well-to-do and influential sections of society had their own considerations in demanding its rapid expansion. By and large, these considerations were (i) the status symbol which higher education bestowed upon its recipients; (ii) the long-standing nexus between a university degree and a place in the privileged group; (iii) employment prospects for their children to take advantage of the prevailing higher wage-structure which the society offered to the educated persons; and (iv) the marriage prospects of their daughters, which apart their own "beauty" and "parents status" also favoured "University degree" as an additional asset. The unplanned expan-

\*Chief Consultant, Educational Consultants Consortium, CF-4, Sona Industrial Estate, 389 G. T. Karnal Road, Delhi-110 033.



sion of higher education was, the outcome, to which the wrong employment and developmental policies of the government contributed no less. The government often yielded to local pressures to agree to the opening of new colleges and universities without proper planning of locations, academic viability or level of unit costs. These were often started by local influential people as status symbols which conferred on them political and economic advantages. The process went on for several years without much notice of its shortcomings firstly because of the then availability of jobs as a consequence of withdrawal of the colonial power; and secondly due to the opening of new job opportunities, under the government or the tertiary sectors after independence, with the traditional practice of appointing only the educated persons to such jobs. The needs of the society could therefore still keep pace with the output of the higher education system. So far so good. But soon the undesirable consequences of the nexus between the university degree and the employment market started coming to fore in the form of large scale educated unemployment, students unrest in university campuses etc.etc. Several educational reforms aimed at making Higher Secondary School Leaving as the terminal stage far many; vocationalisation of education to divert students to job-oriented vocational courses; and other measures that could possibly be taken in a democratic system to discourage or even to restrict university admissions followed: yet the rush for university courses had remained unabated for a variety of social, cultural, economic and political reasons. In fact the higher education system has within itself an inbuilt element of expansion: pressures from the educated unemployed have been leading to expansion of colleges and universities, which, in turn lead to greater unemployment and more intensive pressures. The social and cultural pressures have even damaged the true character of the university by converting it into a "respectable waiting-place" for many, either to mark time until one found a suitable or not-so-suitable foot-hold in the society; or gain more time and more education to try and search for better placement or just to seek a "dignified cover" to hide the frustrations of failures to get proper job. In all such cases, the institutions of higher education have implicitly become either the unemployment dole givers or "baby-sitting" establishments. Besides, the economic and political pressures resulting in wrong employment policies have come to such a pass that a university degree becomes necessary even for jobs where it is absolutely irrelevant. The situation is aptly described in a book on education in India published in 1978 in the following words :

"A stage has now been reached when a university

degree has become almost the minimum educational qualification for any worthwhile job, and, at the same time the distance between a degree and a job has increased so greatly that the process of hunting a job through higher education has become almost tantamount to a draw of lottery".

#### IV

##### Alternatives

When society devalues university degree especially in arts, humanities or even natural sciences, the main recipients of higher education — a majority of top 20 percent of the income group — search for alternatives, within the higher educational system (as they do outside the system) to keep themselves in position of social status or economic and political power. One of the alternatives within the system is to reform the system itself to their advantage. This is reflected in the recent trends observed firstly through mounting pressures to expand the existing infrastructures for professional courses, e.g. Medical, Engineering etc. for which there is still a continuous demand; and secondly, through introduction of new specific job-oriented courses which have higher income generating potentials e.g. computer science, electronics, industrial and analytical chemistry, environmental science, biotechnology, food technology, business administration, industrial relations, etc. etc. The higher education institutions in India are already producing about 150,000 qualified scientific and technical personnel every year. The total stock is estimated at 2.5 million, ranking India, as the third complement of such manpower in the world, next only to USA and USSR. The introduction of new specific job-oriented courses could further strengthen this technical work force of higher competence for managing industry, commerce, agriculture and all other major and minor establishments of applied scientific research. In fact, the dependence on foreign higher education since the sixties has not only been minimal for almost all branches of learning, but that India has been even "exporting" quite a substantial number of engineers, doctors, scientists and technicians both to the developed and developing countries. The moot question, however, is the society's capacity to absorb the growing technical manpower — the outputs of the higher education — for nation's development than for "export".

One of the alternatives being seriously talked about in India, at present, is to delink jobs from university degrees, in the hope that this may have the desired effect in slowing-down the rate of unwanted quantitative



growth, as also in improving the much-needed qualitative development in higher education. The earlier reforms in increasing the schooling period by two years and vocationalising education in these last two years in order to make the 12-year schooling a terminal stage for many students was also intended to achieve the same objective but without much impact. Time alone will tell if delinking jobs from degrees will achieve the objective in view. Some of its limitations are obvious. Firstly, no delinking is possible in case of existing professional courses like medical, engineering etc. or the newly emerging specific job-oriented courses. The only other areas are of general education, covering arts, humanities, general sciences etc. which equip young people for white collar jobs. Secondly the demand for higher education, in any case, is expected to rise because of the pressures of sheer numbers completing school education and also because of the various other social considerations, discussed earlier. Thirdly, as delinking degrees from jobs cannot mean stopping the degree holders in competing for jobs, even where degrees are not required, it may be difficult to change the conventional attitudes of employers, particularly in the private sector, to prefer university degree holders to others. And finally, the open-market recruitment policy, without restrictions of educational attainments, may lead to even greater favouritism and corruption than hitherto for entry into jobs, especially into jobs in the government and public sector establishments.

Perhaps, a more pragmatic approach would be to abandon altogether the idea of putting any restrictions on the acquisition of higher education by all those who are qualified and desirous of acquiring it. On the other hand, the educational system may adopt a more flexible and open door policy of multi-channel system of entry into institutions of higher education — the full-time; part-time and own-time channels — through "institutional", "correspondence", "distance learning" and "open university" courses. Besides, the open door policy should not imply entry into the system of only those who can afford to pay the price of higher education; but even those who cannot. While the price tags may continue to be put to higher education, a double pricing system under which the poor may get free education, while the rich may pay higher fees, according to their abilities, will be more justified. But what is needed most is a radical transformation of social value system, which, far from looking down upon the university degree holders doing jobs like drivers, cleaners, porters, barbers, petty electricians, plumbers and even scavengers etc. give not merely a lip-support to the concept of "dignity of labour" but adopts it in practice and gives it a respectable place

in society. It is not uncommon to find the university graduates in the west doing all the above mentioned jobs with dignity. But it is the bane of our country that even decades after liberation from foreign rule, the society has not been able to shed age old inhibitions and out-moded social values that force the unemployed university graduates to starve than to accept the so called manual or menial jobs. The answer perhaps lies not in the ajar-door policy of higher education but in the total transformation of the social values system.

The major societal problem today is to cope with the employment prospects of the products of higher education. We are no doubt orienting ourselves to the needs of employment system and training of specialised staff. But, even in these areas of training for specialised and job-oriented courses, we have hardly built up any worthwhile systems of R & D. There is practically no interaction with other parts of infrastructures. There are no "institutional linkages" established to build bridges between production, research and education. There is no real democratisation of education in the sense of existence of joint forums of industrialists, employers, trade unions, youth and women associations, students, teachers and academicians, professionals etc.etc. to discuss various problems of higher education including manpower needs.

Besides, the role of higher education for one's own personal development, irrespective of what professional or income bearing benefits can be derived from it, is generally declining as observed through recent trends in the selection of courses. The courses in liberal arts, humanities, social sciences and even pure sciences that provide opportunities of "learning" and "self-realisation" have a low profile. This "de-academization" of universities is rapidly driving the youth away from their moorings and their cultural heritage. No higher education system can shut its eyes to its basic role in this respect.

Moreover, universities and institutions of higher education owe to the society the role of reflective organs; end of independent academic thought, free from pressures of every day life. Such pressures are everywhere but are far more intense in India which is facing mounting demands on educational budgets in favour of programmes of elementary education and adult literacy for the masses. While these programmes are undoubtedly justified and for which enormous resources need to be mobilised, it would be a pity if under pressures of these programmes, we allow ourselves to ignore the reflective character of the universities, where good and righteous life can be contemplated in freedom and



where problems can be dispassionately analysed and alternatives considered.

## V

### Interaction

The interaction between higher education and society has been minimal in India. In fact, the inherent relationship between the two has almost been ignored, with no serious or determined efforts to bring about radical changes on both fronts. The crisis of relevance in education as a result of unplanned expansion and other factors; and the perpetuation of inegalitarianism in society are, thus, the serious outcomes of the absence of such interaction. Education does not take place in a vacuum: it is often subject to decisive influences of society in which it takes place. It is easier to introduce reforms in both that support each other; but difficult to do so if the educational reforms threaten or run counter to the existing social structures and vice versa. Both of them have therefore, been following the lines of least resistance so far. Both are inegalitarian: the beneficiaries of both are the well-to-do and middle classes that can afford to pay for education, especially the high costs of higher education and both have conveniently shut their eyes and ears to the common people. The Higher education, in particular, has functioned in splendid isolation, catering only to the needs of small minority of the top income group, to the exclusion of overwhelming majority. About 90 percent of the college/university going age-group youth are not covered by the higher education system and the 10% who are its beneficiaries suffer from superiority complex in relation to their unfortunate co-citizens. The universities, too have seldom attempted to reach the masses, except recently, in a very limited way, through their newly opened departments of extension, adult and continuing education in a few selected places.

This does not, however, mean that no change in the existing situation is possible at all. In fact, there is already an under-current of egalitarian change in both education and society which reflects itself in several economic and welfare measures to bridge the wide gap between the "Haves" and "Have-nots" in society and bring at least, elementary education and literacy within the reach of the masses; and high school and higher education to the selected students, among them, through welfare measures of scholarships and other forms of financial support to the poor and talented. The recent opening up of departments of Extension and Adult Education in universities are trends in the same direction. Although the size of these measures and changes in the educational system are yet just marginal

in relation to the size of populations and needs of the country, the consciousness for enlarging the character and scope of such reforms is gradually growing.

How to bring about a break-through in establishing closer relationship between educational and social transformation, and where to make an impactable start? One view is that the start may be made with radical transformation in society, as the development of education does not take place in isolation and that no worthwhile educational reform is possible without first a social revolution. The other view is just the reverse which holds that education, being a powerful instrument of change, a beginning may be made with radical transformation in education which, in turn, will bring about a radical transformation in society. The answer, perhaps is not so simple. It is not a choice between beginning with social reforms first or educational reforms first. Perhaps the answer lies in getting out of this vicious circle and ushering in a simultaneous social and educational transformation in order to establish a closer relationship between the two. The contents of such changes in society may include: (a) narrowing the existing wide gap between the living standards of the rich, the upper and lower middle class and the common people through economic reforms; (b) minimising various forms of exploitation; (c) thoroughly modifying the existing wage-structures; and (d) ensuring a basic minimum standard of living to the common people through such measures as increased production of goods and services needed by common people; an employment guarantee on reasonable wage to all able bodied persons who are willing to work; an efficient public distribution system of foodstuffs and other essential commodities, etc. etc. The character of changes in education may cover: (i) emphasis on such educational programmes for the masses as elementary education, adult literacy, non-formal education for out-of-school youth, along with dual-pricing structure for higher education, enabling the poor and talented students to have an easy and free access to higher education while charging higher fees from those who can easily afford to pay; (ii) reforming education to make it a powerful instrument for changing the social value system that should give a respectable place to dignity of labour, and condemn discrimination on grounds of income as on other grounds of caste, creed, sex, language, region, religion etc.; (iii) making radical changes in the contents and curricula as well as in methods of teaching and evaluation to suit the ethos of work and production and the needs of national development; (iv) exercising academic freedom with courage by the academic

*(Contd. on page 16)*



# Book Imports : Librarians' Assessment

M.S.Rana\*

The fast depleting foreign exchange reserves in the country have necessitated the Ministry of Finance to put some curbs to regulate the import of hundreds of items. The idea behind this imperative measure is to trim the import bill and to use minimum required foreign exchange on the import of Open General Licence (OGL) items. As OGL category items did not require specific import licence, some unscrupulous importers indulged in underhand practices both at the cost of foreign exchange and the consumer of their imports. In the case of books such underhand practices included import of 'remainders' from US and UK at the throw-away prices of 75 to 80 percent off on original prices and passing them on as regular supplies, thus making big holes in the pockets of buyers as they billed them at the published prices, squandering of foreign exchange as the import bills were manipulated to indicate original prices, thus illegally siphoning out huge forex in favour of their exporters; import of glossy and costly nursery books and cheap fiction which only the neo-rich can afford to buy, about 30-45 percent of imports consisted of such books; import of books which were hard-to-sell in the affluent west; and import of books which carry high trade margin tags on them, irrespective of their relevance to university curriculum. Under the new import policy order which came into force in Aug.1990, an importer who wants to import books worth Rs. 3000 will be required to deposit Rs.6000 i.e. two hundred percent of the import value in advance with the Reserve Bank of India. It takes about 2-3 months to receive book supplies from abroad; thus the advanced money is blocked and it has adverse effect on the economy of the importer. On the other hand it gives added benefits to the importer which otherwise would not have accrued to him. One, only sure-selling books in required quantity would be imported as credit purchases are not possible under the new regulations. Two, the exporter will promptly attend to his indent as he is sure to receive payment as soon as the consignment reaches his customer, and above all, the book trade will not be subject to the ignominious charge of bad debtor in the international book market. In spite of all these advantages, free flow of books would be adversely affected by the new import policy and ultimately teaching and researches would suffer.

In deference to the underlying principle of international agreements such as the Florence Protocol and the UNESCO's all pervasive influence on free flow of knowledge, the Government of India placed import of books under OGL category in 1977. The conditions for import of books under OGL were as under:

1. Only books on educational, scientific and technical subjects are allowed. Fiction and Children's books, if prescribed by any recognised institution as textbook or recommended books are allowed,
2. No import of foreign editions of which authorised Indian editions are available,
3. Foreign reprints of Indian books are allowed with permission, and
4. No import of unauthorised reprints of books published abroad.

The OGL facility proved a bonanza to unprincipled and profligate book importers. With the connivance of their exporters, they imported obsolete editions and remainders in bulk quantity and passed them on as regular publications. In the international book market, Indian book importers are sardonically called 'remainder merchants'. It is reported that they were very much in demand at the recently held London Book Fair. In 1988-89 books worth 1,141 million rupees were imported against 430 million rupees in 1985-86. The rising curve of books imports and the fast depleting foreign exchange reserves compelled the government to regulate import of books. The new regulations do not aim to cripple the trade or to strangle teaching and research but to ensure that only the right types of books are imported.

The Indian book importer lives in an ivory tower. There is no interaction between him and the academicians and librarians. He does not feel the necessity of scanning university syllabi and import books relevant to areas of teaching and research. Except some standard textbooks about whose sure-sales the importer is informed by the distributor, his remaining bulk import list has no relevance to teaching and research trends in the country. The importer also assumes the role of an academician and procures titles which he is sure to

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\*Librarian, University of Roorkee, Roorkee-247 667.



thrust upon his ill-informed customers. There are scholars, researchers and librarians who read reviews and writeups about new releases and order for them. Such greatly needed books are seldom imported. In our context it is a bookseller's market; whatever books he brings to the libraries selection is made out of them. Recently I required a set of five reference books, all published in the US. An enquiry letter was mailed to 14 leading book importers. In return I received a uniform stock reply 'Sorry none of the books you require are in stock'. One enlightened importer offered to import them against firm order. If one browses through foreign books at big shops and on pavements, one can easily conclude that these have been imported in an haphazard manner; without giving serious thought to their subject coverage and their use in the academies. Its result is that unsold stocks and unwanted books accumulate dust in bookshops. It affects the trade. What is true of unsold stocks with the trade is also true of purchases of imported books made by the university and college libraries during the past fifteen years. Seven out of ten such books have not been used by anybody. In such situations, foreign exchange spent on such imports is a gross national waste. There is imminent need to evolve a mechanism whereby only highly relevant and sure-selling titles are imported. This is both in the interest of the trade and the libraries. It would save a lot of foreign exchange.

Among the Third World countries India is the biggest consumer of foreign books. Over ninety percent of our imports are from the US and UK markets. Some of the world's leading publishers have established their Indian subsidiaries to exclusively market their books; some others have even introduced publishing Indian authors and reprint their original publications which have large market in the country. They also export their Indian publications and thus earn foreign exchange for the nation. These companies include the Oxford University Press, Prentice-Hall of India, Macmillan India, Tata Mcgraw-Hill, Wiley Eastern and Sage publications. The last to enter in this field is Penguin Books India. The other category of foreign publishing companies confine to marketing their publications. These among others include Academic Press, Springer-verlag, Addison-Wesley, Elsevier, Cambridge University Press, and Marcel Dekkar. With the exception of the Oxford University Press, the Cambridge University Press, Penguin and Sage who publish and market books in social sciences and humanities, others are science and technology publishers. Some critics of foreign collaboration have viewed it as "colonialism in the publishing trade." Their conclusion is perverted and biased. Multination-

al collaboration in all areas of production and technology is a world wide phenomenon. It gives boost to development in underdeveloped countries. Foreign technology and collaboration should be imported without any strings attached to it. Tata Mcgraw-Hill, Sage, Oxford University Press, Wiley and Penguin are publishing indigenous and foreign authors at affordable prices. Within five years of its entering the publishing market, Penguin Books India has brought out over one hundred new titles; these books are moderately priced ranging from 80-150 rupees each, and above all it has adopted Indian authors. It is really a great breakthrough in Indian publishing world. Penguin have created a big export market of Indian authors abroad. Their university level books are cheaper than undergraduate level texts of 'swadeshi' publishers. I have deliberately avoided emphasising the difference in the production and editorial quality of such publications.

Foreign publishing collaboration is most needed in journals publishing sector. Journals are basic research source and at the same time the costliest inputs in libraries. Periodicals subscriptions have drastically been cut in provincial universities. College libraries have long ceased to subscribe them. Its impact on researches and higher education can very well be imagined. The Scientific American has made a laudable beginning by publishing its Indian edition titled Vigyan-Scientific American Indian edition. In comparison to the US edition, its Indian edition is three times inexpensive. Indian edition costs Rs. 225 while US edition is \$ 36 (Rs.684) per annum. The publishing trade should explore the possibilities of bringing out Asian editions of scientific journals for the Third World countries. It would be very rewarding and innovative publishing both for the trade and research libraries. The government and the book trade should encourage opening of Indian subsidiaries of foreign books and journals publishers in the country and should invite big publishers to market their books in the country through the normal trade channels. They should have the facility to re-export unsold titles to the parent company or to other foreign markets. They should be encouraged to print most used books in the country. The price of Indian edition of foreign subsidiary companies is four to six time less than its original foreign edition. Thus there will be enormous savings of foreign exchange and in the long run these companies would be exporting their books to underdeveloped countries. Some progressive publishers have already made a beginning in this area. Book importers should not be allowed to indent foreign publishers books whose Indian subsidiaries function in the country. The US and UK publishers fix higher price tag for hard bound books; soft cover editions are cheaper by forty



percent over hard bound editions. Generally all textbooks and other popular books are also issued in soft cover editions. In India a first class binding can be had in twenty five rupees. We will be saving a lot of foreign exchange if as far as possible softcover books are imported. Loose sheet import is another area where foreign exchange can be saved. Loose sheet bound Indian books will be less costly than publishers bound. Books upto the level of higher secondary education should not be imported. Our book industry in private and corporate sector have been publishing excellent quality of children books and books meant for higher secondary education. From socio-cultural point of view also, children should imbibe national ideals and cultural milieu of the motherland rather than the smattering of John Bull culture reflected in the works of Borges and Barthes, so that they enter life with confidence and as citizens well informed about their surroundings. The young mind should have access to the works of Rabindra Nath Tagore, Mulk Raj Anand, Raja Rao, R.K.Narayan, Anita Desai and a host of other Indian English writers.

India imports books worth Rs. 110-120 crores per annum. It looks ridiculous that our book imports are exclusively from the powerful publishers of US and UK. Knowledge is not the monopoly of the affluent west. There are very innovative and scholarly publishers in English language in the Third World also. Their publications are comparatively moderately priced. Sterling pound and US dollar is not involved in their imports. If our book trade explores the Third World book market, it would certainly make a breakthrough in "knowledge imperialism." The Indian scholar would get exposed to a new world of knowledge. Since the Third World countries have many common issues and ideas in social sciences and humanities, they would be greatly rewarded by studying each others literature and the developing countries would provide good flourishing book market inter se.

Some book importers feel scared of the New Book Import Order, some of them have drawn bizarre conclusions such as that it would sound the death-knell of the book industry; it would lead to a real book famine in the country; it would affect adult education programme; it would result in steep increase in the prices of imported books; there would be large delays in reader's access to new books; it would cause irretrievable damage to both research and higher education; and that new textbooks will not be available in the new academic year beginning July. All these apprehensions are partly unfounded as import of books is open to all without any hinderence, except that some checks have been introduced to dis-

courage import of unnecessary books.

The book trade is taking advantage of the New Book Import Policy and has unilaterally changed terms of supplies to libraries. Last week one leading importer issued a circular to all Libraries. It states that :

Due to this (New Book Order) unprecedented crisis, we are now forced to make certain changes in our terms of supply and new terms are mentioned hereunder:

1. Until further notice, discounts and conversion rates will be as per directives of the Good Offices Committee.
2. We can accept your procurement orders if it is preferably accompanied by 100% advance payment. Alternatively, you can allow us to retain your orders and process them after this situation normalises.

The three agencies directly involved in the import of books — the government, the trade and the libraries (94 percent of imported books are purchased by the libraries) — should prepare guidelines for import of books keeping in view the foreign exchange crisis, the academic scenario and the book publishing and marketing trade in the country. A few of these guidelines may be as follows :

Foreign publishing companies should be encouraged to set up their Indian subsidiaries to market their home publications; they should publish Indian authors and should reprint their textbooks in India. Books of foreign publishers whose Indian subsidiaries or distributors have been set up, should not be directly imported by other traders; only those companies who export books of certain amount should be allowed to import books; books upto the level of higher secondary education and cheap fiction should not be imported; the RBI order of two hundred percent advance deposit should be withdrawn, as all possible areas of misuse of book import under OGL category facilities would be plugged by the above measures.

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## To Our Readers

Knowledgeable and perceptive as they are, our contributors must not necessarily be allowed to have the last word. It is for you, the readers, to join issues with them. Our columns are as much open to you as to our contributors. Your communications should, however, be brief and to the point.

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# NELIBNET – A Promise of Prospect for Northeast India : An Outline

Ramansu Lahiri\*

Krishnan Subramaniam\*\*

## Introduction

Libraries in the academic institutions have a fundamental role to play in the development of higher education. To enable our academia to meet the demands of higher education and to help them keep abreast of the newer developments in their fields of specialization, it is essential to have well stocked Libraries. In this age of high technology, new books and research journals in science, technology and other fields are flooding the international markets. To keep pace with the developing trends in the field of education/research, the Universities have to procure a vast range of books which happen to be expensive and also subscribe to international journals.

To meet the growing requirements of our researchers and scholars and to provide effective information service, Library automation is essential. The manual system is cumbersome, updating tedious and providing accurate subject access has become difficult and time consuming. Computer processing overcomes most of these rigors and can generate records as per individual requirements. More importantly the documents/records from different establishments/laboratories can be integrated to provide faster and accurate access to the contents and singular requirements. This would ensure effective pursuit of national policies on economic, technological and social development.

Three factors are dominant in counselling the automation in libraries: (i) environment; (ii) users; (iii) library professionals. Environment has been moulded by widespread adoption of new information storage devices and access methods, networking and expanding marketing by the information industry, increased competition and changing consumer needs and demands. The users are no longer in a position to spend hours at the library looking for documents that may or may not contain a required data or information. The role of library professionals has changed to that of an active

communicator and networker of data and information from a passive introverted role and drudgery.

In order to take full, meaningful advantage of modern technology and to bring real benefits to the professionals and users, automation of Library and Information System has become the prime necessity for any Library.

## Library System in the North-Eastern Region

The state of affairs pertaining to library and information service is far from satisfactory in this region. Most of the libraries are in improvised conditions. The library and information system and networking requires immediate modernization and adoption of latest techniques.

The geographical situation of the States in the region also denies easy access to the users not only to the libraries in the rest of the country but even to the institutional libraries in the States. In the absence of advancement in information, computer and communication technologies in the region, the libraries in the region have fallen short of their expected image of an institution for diffusion of knowledge and information and have failed to support the community, institution and/or the organization to the full extent. Unless the widening gap in utilization of information and knowledge is reduced, there is a danger of continued unrest and the community would not only fail to make any meaningful contribution to the development of the region and the nation but would add to the frustration of the people and increase the insurgent activities in the region.

## Library Automation – A Backdrop

The Government of India, as early as in 1958, recognized the important role the Libraries could play in the nation building and set out the following directions in its Scientific Policy Resolution :

“ to encourage individual initiative for the acquisition and dissemination of knowledge, in an atmosphere of academic freedom;

.....and, in general, to secure for the people of the country all the benefits that can accrue from the acquisition and application of scientific

\* Assistant Professor, Library & Information Science,

\*\* Assistant Registrar & Special PA to the VC,  
Manipur University, Imphal - 795 003.



knowledge.....”

The Technology Policy Statement (1983) has made an explicit mention of establishing technology information base, towards availability of an efficient system of collection and analysis of relevant technological information.

The National Policy on Education (1986) has called for a Library Movement in the country and also for improved library facilities. The policy proposes to:

“establish networking arrangements of selected institutions from all parts of the country by linking them together through a computer data network with terminals for each to enable sharing of information, data banks, library and computation resources, consultancy and consultation and generally promotion of interaction between researchers and academics;

ensure access to information and source material essential for research, a network of regional libraries as a common servicing facility will be established. These libraries will be equipped with modern facilities for information storage, retrieval, reprography, etc.”

The National Information Policy has recognized information as indispensable for the functioning of a true democracy where people have to be kept informed about current affairs and broad areas of interest.

The Government of India realizing the significant role the libraries could play in initiating new programs relevant, by taking advantage of the latest advances in information technology, to the national needs and in supporting expeditious decision making at all levels, has set out its National Policy on Library and Information System (1986). The Policy aims to achieve fuller development of the libraries to provide information services.

The University Grants Commission's firm conviction that a library and information network is very much needed in the country, led the Commission to study in depth the essentials and to bring out an ambitious plan of establishment of an Information and Library Network (INFLIBNET).

#### **Northeastern Region and Automation :**

##### **A Shy Homework**

In the field of automation of libraries in the region, much is yet to be achieved. Networking of libraries is still an idea in this region.

As early as in 1981, the Northeastern Council recog-

nized the need for networking of information system. The Regional Computer Centre, Calcutta, which conducted a study for the Northeastern Council reported :

“...the computational facilities available in the region were not adequate to meet the current needs and were having limited capacity. As a result not much of data processing activity can be carried out and the growth in the areas of agriculture, power, mines and minerals, irrigation, transport, forestry, education and manpower development have been affected in the absence of modern data storage, processing and retrieval facilities”.

It had recommended augmentation of the microprocessor based system and a central system with terminal support to all the States to meet their requirements.

Distinguished Library Scientists and experts are of the opinion that :

- a Northeastern Regional Library and Information System be created at the regional level upgrading and strengthening the existing facilities in the Regional Documentation and Information Centre of the NEC
- financial and other support be extended to the library and information centres for automatic bibliographical operations and services by concerned agencies and departments; and
- a scheme be evolved for greater cooperation and greater coordination among the universities and specialized libraries of the region.

In 1987, at the National Seminar on Futurology, organized by the Department of Science and Technology at the Manipur University the scene of documentation and information service in the forthcoming decades was discussed and a network of information services was visualized. The Manipur University at the Conference of the Vice-Chancellors, Education Secretaries, etc., of all the States in the region, in February 1989, convened by the Northeastern Council to discuss the developments in the Library and Information System in the Northeastern Region suggested a proposal for setting up of a computer network through on-line, connecting all the documentation centres of the universities in the region using the services of the digital microwave system.

The Indian Library Association, Delhi, has also come forward to patronize the idea. In its recent National Conference at Jodhpur University, a paper regarding the feasibility of introducing Network in the Region was



presented and discussed.

### Resource Sharing : The Target

Resource sharing and cooperation are based on the assumption that academic libraries can no longer afford to be self sufficient — they cannot purchase all materials required to meet the needs of their curricula and related faculty research. There are always demands for more publications. For research and development, scholarship, learning, etc., the procurement of latest qualitative knowledge cannot be stopped. Resource sharing, therefore, is essential. As it has been experienced by the developed countries, the resource sharing can help to:

- develop cooperation in acquisition among the regional university libraries,
- share the holdings of each other,
- increase the interdependency among them,
- open up the scope of the researchers to consult an increased number of reading materials available at the member libraries,
- avoid duplicate purchasing,
- ensure collection of special subject oriented material and service,
- establish efficient communication systems,
- prepare union catalogues referring all the holdings of all regional libraries, and
- develop information marketing mechanism through cooperation and controlling the quality of collection.

### Proposal for a Network

In the backdrop of above discussion it has been felt that an on-line network system in the Northeastern Region is a prime necessity to cope with the overall development of the region. Therefore, the proposition is to have an on-line Network System titled as the Northeastern Region Library and Information Network (NELIBNET) connecting all the Documentation Centres of the Universities and University Libraries, College, Special and Research Libraries in the academic institutions in the States, the State Central and District Libraries and other information centres in the States. The network could be under a central organ which could be designed and set up on the lines of INFLIBNET. The network may be set up in each of the States in the region and linked with the Regional Network System. The linking between NELIBNET and INFLIBNET would be an ultimate target. At this stage, the core facets of the NELIBNET program may be outlined as given below.

### Documentation Centres: Information Service Points

Documentation centres on the campuses of all the universities in the region be established to :

- act as the information service points,
- be the responsible agents for scanning, indexing, abstracting and disseminating information from current periodicals available in the libraries,
- prepare union catalogues sharing the resources of all libraries,
- be an instrument of constant interaction and cooperation among all the libraries sharing their own resources,
- procure and supply the materials,
- act as the depository centres of all valuable documents and information available in their respective localities, and
- eliminate geographical barriers.

### Main/Sub Centres : An Outline

The following centres could be established for networking of library and information system in the region:

- i. *Central Organ* at the Regional Documentation and Information Centre of the Northeastern Council, Shillong
- ii. *Main Centres* at all the universities in the States, viz. Manipur University, Imphal, Manipur; Gauhati University, Guwahati, Assam; Assam Agricultural University, Jorhat, Assam; Dibrugarh University, Dibrugarh, Assam; North-eastern Hill University, Shillong, Meghalaya; Tripura University, Agartala, Tripura; Arunachal Pradesh University, Itanagar, Arunachal Pradesh; Nagaland University (?) / Northeastern Hill University Centre, Kohima, Nagaland, North-eastern Hill University Centre, Aizawl, Mizoram; and Silchar College/Barak University (?), Silchar (Cachhar valley), Assam.
- iii. *Sub Centres* at all the State Central and District Libraries; College, Special, and Research libraries of all the academic institutions in all the seven states.

The Central Organ, at the Northeastern Council's Secretariat at Shillong, would be responsible for the smooth functioning of all the centres and would coordinate with all the centres, the State Governments and the end users.

The Main Centres will be the service points for the end users of the State and also entertain requests from



other centres in the region by providing fax copy, hard copy and other usual library services, like abstracting, current awareness service, union catalogue, interlibrary loan, etc. The sub-centres would prepare the catalogues, provide for other usual library services and serve the end users mainly at the local level.

The networking of the centres could be taken up in a phased manner. In the first phase, the Main Centres could be established. The Second phase may cover the college/special libraries and the third phase the district libraries. The functions of the centres could be the same, with necessary adaptations to suit the regional requirements, as envisaged in the University Grants Commission's INFLIBNET proposal. The Programme of Action on National Policy of Education also emphasized the importance of networking, collaboration, linkages and has discussed in detail the role and functions of networking systems. These centres could be later linked with the INFLIBNET and other Library Networking Systems of the nation.

The centres would require assistance for equipment (computers, modem, fax, microfilm units, copiers, etc.), personnel, etc. A brief detail of the requirements is given in Annexure.

## Conclusion

The proposed centres, i.e. university libraries, manned and managed by skilled professional staff, are already engaged in the dissemination of information manually. The implementation of the project would therefore, face little difficulty and would be of great benefit to the institutions as well as the region. Since professional personnel are already available in the university libraries, the personnel required for the centres could be restricted to technical personnel.

The regional network system connected with other state network systems would enable the storage, processing and retrieval of information available in all the universities and other libraries and research institutions of the region.

Due to the cost factor of the state of art technology and also the requirement of commitment of all the seven States, a decision in favour of the system would require national planning. The Northeastern Council, which is the apex body for the planning and development of the entire northeastern region could play the pivotal role of planner, financier and executive manager. The University of Manipur has qualified personnel to develop the software requirements, specially with reference to the regional context. Thus Manipur University could not

only shoulder the responsibility of working out a viable blueprint for the establishment of the NELIBNET but could also actively associate itself in execution of the project.

We are of the opinion that the NELIBNET would be an immediate answer to many of the problems of the region and will pave the way for the overall and expeditious development of the region, as has been visualized by many a Social Scientist.

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### Requirements of NELIBNET Centres

#### 1. Equipment for the Main Centres and the Central Organ

- i. Computer with 32 bit processor; 64k each memory or multiple processor; 8 MB ram; 3 x 300 mb Winchester; 60 mb CTD; 1 console VDU and Keyboard with additional 2 terminals; communication controllers; printer; Unix Operating System/DOS with standard language compilers, Unify Focus, Oracle, GKS, CAS/CAM, LAN/RAN/WAN, CD-ROM, DTP Mouse, Digitizer, Image Scanner, Laser Printer etc.
- ii. Communication network accessories (modem, fax, microwave lines — to be hired from the Department of Telecommunications, etc)
- iii. Microfilm units,
- iv. Copiers, etc;

#### v. Software

#### 2. Personnel and Recurring Expenditure

##### i. Personnel:

Documentation Officer	- 1
Xerox/Microfilm operators	- 2
Programmer/Computer Operators	- 1
Office Asstts/Typists	- 3

##### ii. Contingencies and Maintenance

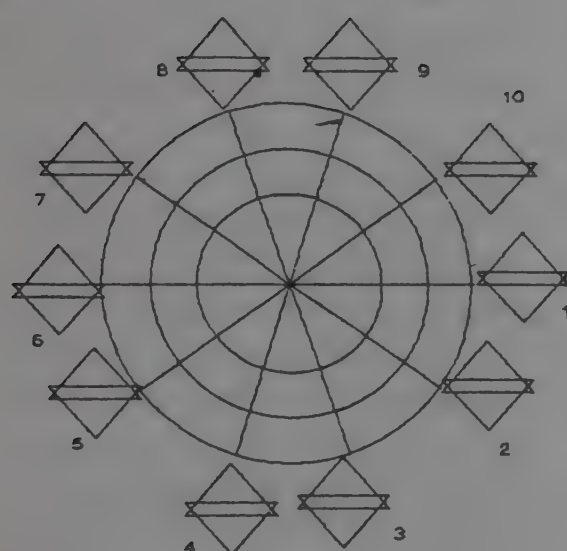
##### iii. Research Materials

#### Equipment for Sub Centres

1. PC AT 486 with VDU, Keyboard, Printers; Modem/Fax; Other Accessories
2. Personnel:
 

Professional Assistant - 1	Office Assistant - 1
Computer Operator - 1	Library Attendant - 1
3. Contingencies & Maintenance

### NELIBNET—A Digrammatic Representation



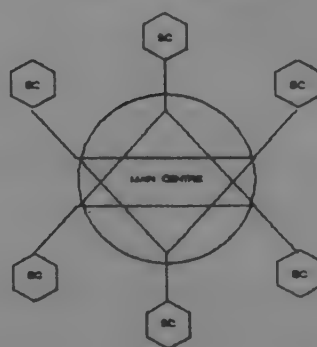
Central Organ Northeastern Council



Main Centres

- |                                 |                            |
|---------------------------------|----------------------------|
| 1. Gauhati University           | 2. Assam Agril. University |
| 3. Manipur University           | 4. Dibrugarh University    |
| 5. Northeastern Hill University | 6. Tripura University      |
| 7. Arunachal University         | 8. Nagaland University     |
| 9. Aizwal                       | 10. Silchar/Barak Valley   |

Main Centres Located at the  
'University Library'



All Centres located at College Special Research  
& States/Districts Libraries

#### FUNCTIONS:

##### CENTRAL ORGAN (at NEC, SHILLONG):

- \* COORDINATION, MONITORING, EVALUATION, FINANCING AND CONSULTANCY
  - \* REGIONAL DATA BANK
  - \* REGIONAL DOCUMENTATION CENTRE
  - \* PUBLICATION OF: CATALOGUES, INDICES, ABSTRACTS, BIBLIOGRAPHY, CURRENT AWARENESS, REPORTS, PROJECTS, ETC
  - \* REGIONAL USER QUERY/SERVICE POINT
- ##### MAIN CENTRES (at 10 LOCATIONS—UNIVERSITY LIBRARIES):
- \* DATA BANK, STATE DOCUMENTATION CENTRE,
  - \* STATE CATALOGUES, BIBLIOGRAPHY, INDICES, ABSTRACTS, CURRENT AWARENESS, REPORTS, PROJECTS, ETC, AND PUBLICATION THEREOF
  - \* FAX/HARD COPY SERVICE
  - \* CONSULTANCY, MANAGEMENT & TRAINING
  - \* ALL USER SERVICES
  - \* LIBRARY AUTOMATION
- ##### SUB CENTRES (AT ALL THE COLLEGE, RESEARCH, SPECIAL, STATE CENTRAL AND DISTRICT LIBRARIES):
- \* LOCAL CATALOGUING, INDEX, ABSTRACTS, BIBLIOGRAPHY, CURRENT AWARENESS, REPORTS, PROJECT ETC
  - \* LOCAL DATA BANK/USER SERVICES, ETC



# UNITY IN DIVERSITY

Hon'ble Sri P. V. Narasimha Rao, Prime Minister of India, delivered the Convocation Address at the second convocation of the Telugu University, Hyderabad. In an inspiring address, he spoke of the 'continuous story of brilliance since a hoary past' of this ancient land of ours. He said, "In all matters — be it religion or language or tradition or art — we find that diversity is only external and that there is a characteristic unity at the core. That is why India stands out as a living example of unity in diversity in the eyes of the World". He added, "Every Indian ought to realise this essential character of our country. Only then will our horizon become wider. When one is baffled by the outward differences and fails to note the underlined unity, his vision becomes narrow".

Excerpts

Several great poets have depicted our Country, India, in their poetic works. Bankim Chandra Chatterjee painted the magnificent and glorious picture of the Country in his celebrated song 'Vandee Maataram'. Viswakavi Tagore presented a superb picture of our Country in his immortal song. He incorporated the names of various regions in it so that we may chant again and again. It was most ap-

numerous dynasties. This land had been the target of many invasions. Yet, our Country withstood all vicissitudes and stood like a rock. We had also learnt our lessons, specially about the unpleasant consequences of disunity.

However, the fact remains that the core and soul of the Country has been maintained intact. The Country could adopt to the new circumstances at every stage and

## CONVOCATION

propriate that this song 'Jana Gana Mana' was adopted as our National Anthem.

This ancient land of ours has a continuous story of brilliance since a hoary past. The plains of the Ganges and the Sindh became Aryavarta after the advent of the Aryans and marched ahead towards a multi-faceted progress. Our Vedic literature had been a universal source of inspiration and enlightenment. It was here that fresh religious thought in the form of Buddhism and Jainism took birth and bestowed a new light on the human existence. This land was ruled by

further, it could appropriate and absorb the newness into its system. In all matters — be it religion or language or tradition or art — we find that diversity is only external and that there is a characteristic unity at the core. That is why India stands out as a living example of unity in diversity in the eyes of the World. Every Indian ought to realise this essential character of our Country. Only then will our horizon become wider. When one is baffled by the outward differences and fails to note the underlined unity, his vision becomes narrow.

We may examine the area of lan-

guage as an example of unity in diversity. Ours, of course, is a multilingual land. Owing to the historical, social and cultural factors referred to earlier we have four main families of languages in our Country. According to Philologists there are 179 languages and 544 dialects in our Country. Out of these we could include only 15 regional languages in the Eighth schedule of the constitution though we consider 36 as modern Indian languages. Sanskrit, Pali, Arthamagadhi and Prakrit are considered as classical languages. We have included in our educational system seven foreign classical languages like Arabic, Persian and Latin and eight foreign modern languages like German, Spanish, Italian, French, Russian and Chinese besides English.

In spite of such huge multiplicity we find a basic cohesiveness in the literatures of several Indian languages. Dr. Sarvepalli Radhakrishnan put this idea in a cogent expression when he said 'Indian literature is one though written in many languages. When this truth is realised, the appeal of literatures in various languages transcends the language barriers paving way for an ardent integration. Our ancestors took advantage of the variety of languages to cultivate and enrich the Indian Literature. There might not have been so much of extensive literature and so many great poets if there had been only one language for the entire Country. Adikavi Valmiki composed Ramayana in Sanskrit as a great epic. Several Ramayanas that appeared in various regional languages do not fall short of it in poetic beauty. Even translations of the work have attained no mean excellence. The Kamba Ramayana in Tamil, Ramcharit Manas of Tulsidas in Hindi, Bhaskara Ramayanam in Tel-



ugu, Ezhuthachan's Adhyatma Ramayanam in Malayalam, Eknath Ramayana in Marathi and such others are highly regarded universally.

Such phenomenon can be noticed in other areas also. When viewed in this light, we see before our eyes the comprehensive picture of our great Country in its myriad facets of language, literatures, Arts, Culture and traditions. That is the radiant figure of our motherland in its full glory.

Any discrepancy in one's thinking will not allow him to recognise such comprehensive picture of our Country. Barriers rise up, the sense of belonging gets blunt, selfishness prevails, and a narrow outlook of restricted confinement predominates, the capacity to respect and love the neighbour recedes. This will be a death blow to integration and integrity of our Country.

When one loses broad outlook, conflicts, animosities and ill will come to rule, leading to wide scale clashes and acts of violence. The World as a whole is witnessing similar turbulence. As a result, peaceful public life is disturbed. A colossal loss of public and private property and, much more, loss of precious human lives is taking place. Such state of affairs does no good to any country and more so to a country like ours, which is striving to forge ahead. Now is the time when we have to face and solve several problems cropping up in areas like health, population growth and employment with unity and determination. Any disturbance at this juncture is perilous. Each one of us, therefore, has to eschew such undesirable trend and come together to work for the progress of the Country with all sincerity at command.

I feel that the youth and students

of the Country have a pivotal role to play in the enormous task. I recall the inspiring speech by Swami Vivekananda in which he proclaimed that he would hold even a particle of dust of this Country as the holiest of the holy and asserted with confidence that this great Country would rise up and that no external force could restrain its progress. The onus of realising this dream is on us.

As I said, the youth of the Country should shoulder the responsibility of creating a bright future for the Country and fill it up with vigour. The right to vote had been given to all those who have completed 18 years. Thus they are saddled with a right to devolve political power. Pandit Jawaharlal Nehru laid foundations for the spread of technical education in the Country. He felt that it was essential to turn to science and technology if the Country was to progress and compete with developed Nations. He expressed his confidence in science and believed that scientific outlook could and would transform the World.

The system of education in our Country is acquiring a new spirit. The new National Education policy formulated under the dynamic leadership of Rajiv Gandhi forms the basis for it. This policy defines the comprehensive role of the system of education and provides guidelines for the total development of the student community. I feel it would be appropriate to recall the salient features of the new policy on this occasion.

The new policy attaches greater importance to scientific, technological and vocational education and also to distance, and continuing education. It gives priority to education for girls and for cultural development. This policy envisages equality in education and takes care of National integration. Formula-

tion of common syllabus is a special feature of this policy.

I hope that this new National policy would invigorate education in our country.

I am happy that Andhra Pradesh has taken lead in this regard. Even before the Indira Gandhi National Open University was established by the Government of India, the State of Andhra Pradesh set up the Andhra Pradesh Open University, the first of its kind in India.

The report of the Vice-Chancellor informs that the Telugu University is stepping out of its infancy and has taken up a variety of programmes in teaching, research, publication and many other activities. I am happy about it. This University is unique in its character. I am also happy that language and literature, arts and culture occupy a special place here. Art and culture help in development of personality. Emerson said, 'Culture puts a man among his equals and superiors and revives the delicious sense of sympathy'.

I express my happiness at imparting of education in this University through the medium of Telugu. You know how as a part of our freedom movement we strove to make the regional languages media of instruction and administration. Development of regional languages was an essential item of the constructive programme of Mahatma Gandhi. Gandhiji made it clear that he was not against English which contained a wealth of knowledge. Yet, he stressed on the need to work to introduce mother tongues as media of instruction. Referring to a wide spread complaint that there were not enough terms to express all shades of thought, he pointed out that the defect was not in the languages—but in the language users. He clearly stated that once the languages were put to use, they would grow.

Jawaharlal Nehru opined, 'It is



axiomatic that the masses can grow educationally and culturally through the medium of their own languages'.

It is commendable that the Telugu Akademi set up in Andhra Pradesh has been continuously working in promoting technical terms and books required for teaching. It is note worthy that the Government of Andhra Pradesh has paid special attention to implement Telugu as the official language. A separate body called Official Language Commission is functioning in Andhra Pradesh alone.

It is also a matter of happiness that the Government of Andhra Pradesh is implementing the three language formula effectively.

I find that Fine Arts have a special place in the curriculum in the Telugu University. Dance, Music and Folk Arts transcend the language barriers and are universal in their appeal. Besides entertain-

ment they provide enlightenment and bring people together and closer and elevate them.

Culture has a significant role in the progress of the Country and the Nation. It can promote the unity of the Nation. National integration is not a feature of mere politics. Real integration is only possible through cultural integration. It is only when the various languages, faiths and traditions are integrated that a greater stability and a total integration can be achieved.

Andhra Pradesh is known for Arts. The Kuchipudi School of Dance is the unique contribution of the Telugus to the World of dance. It is commendable that the Telugu University offers a Master's Degree course in Kuchipudi Dance. One more style of dance we can take pride in is the 'Perini Siva Tandavam' a virile style of dance. Nritta Ratnavali of Jayapa provides theory for this. The sculptures in

the Ramappa temple near Warangal provide practical models for the postures of this dance. It is heartening to find this style of dance acquiring greater recognition.

It is necessary for us to pay more attention to comprehensive development of Fine Arts. New media are gaining more and more popularity and becoming powerful influences on the people. It is necessary that the programmes reaching the public through these media should be enlightening and entertaining at the same time. There is need for well trained young men and women to carry these programmes over. Enough care should be taken to see that the powerful media like Films, Theatre, Performing Arts, Radio and Television do not encourage fissiparous tendencies. In this context it is appropriate for the Telugu University to introduce a course in Theatre Arts. I hope this will provide the best training for budding artists.

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## Interaction Between Society and Higher Education in India

*(Contd. from page 5)*

community to maintain the reflective character of universities, enabling them to function as critics of society; (v) creating a climate of sustained and dedicated hard work within the higher education system itself in order to maintain high standards; and (vi) establishing more direct and meaningful contacts with the society at large etc. etc.

A few of the above mentioned changes for more purposeful interaction between higher education and society have been discussed earlier. A few others would, perhaps, need further elaboration. Firstly, the higher education system must diversify the models of institutional structures; and (ii) diversify the courses. The country after independence, began by adopting models of higher education left to us by the foreign rulers. These classical models which put university education at a higher pedestal, amidst surrounding illiteracy and backwardness, and treat it as "Ivory Tower" institution of well motivated students and competent teachers, pursuing the study of western science and literature through the medium of foreign languages of their political masters, have long outlived their utility. These models continue to make little contribution to the community around. While some institutions of this model will still be needed today, it cannot be the only

model to dominate the whole spectrum of higher education. The foremost need is the diversification of institutional models of higher education, which are more responsive to the changing needs of the society around, and to the diversified needs of the fast growing student community. Secondly, the universities must look beyond their existing responsibilities of teaching and research, and develop extension and adult education as their third important responsibility and give it the same status as teaching and research. Thirdly, the universities must introduce diversified courses, especially the newly emerging interdisciplinary courses, giving students a greater freedom to choose from a large variety of courses to suit their interests and aptitudes. Fourthly, the universities should introduce more flexibility in teaching-learning relationship that allow for the adoption of semester system of earning credits that can be used later in cases of interruptions in studies etc. And finally, the existing bureaucratic and centralised structures of universities have to be radically altered to allow for flexibility in teaching-learning relationship, diversification of courses, promotion of innovations and in introduction of reforms to make the universities more dynamic and more responsive to the changing needs of the student community and the society.



# Orientation Programme at Jodhpur University

Dr. V.R. Mehta, Vice-Chancellor of the University of Jodhpur, delivered the valedictory address at the recently concluded Seventeenth Orientation Programme of the Academic Staff College of the university. He said "our universities and college campuses look today, more like places of picnic than temples of learning, as most of the students come only to while away their time because they have nothing else to do; because the fees they have to pay to earn their higher education in this country is just negligible". People as a rule did not value the things which they got free of cost or at a very cheap price. How could then any teacher with such a mind in the class have any meaningful dialogue? he asked. "Colleges", he said, "are primarily meant for dissemination of knowledge, whereas Universities are to create as well as disseminate knowledge". 'Dissemination' and 'creation', he

fulcrum of the whole exercise, he is "lost and helpless in the maelstrom of others' creation". Prof. Mehta went on to declare that only when a teacher would veer round his students and make them attend his lectures and tutorials and sat with the students to 'know' one another better, the teacher's pristine position as the builder of the society would be restored. Dr. Mehta, therefore, exhorted the teacher-participants to return to their universities and colleges with the firm realisation that they were the kingpins of our society and had to work to win respect and importance, due to them. As things stood today, the society did not bother much for the lot of teachers, he opined. We teachers are here, because colleges and universities are here, and the latter are here because public 'grants' are given to run them.

Earlier, the Vice-Chancellor

more questions' than 'finding answers'. Dr. Mehta also dwelt on some measures to make the ASC programmes more effective and purposeful. For example, keeping more unstructured sessions for free and fair discussion on a selected topic. "Such sessions which are not time bound", according to him, "give a feeling of immense satisfaction and throw up as a bonus, many new ideas and experiences". Talking about the objectives of the Academic Staff Colleges, Prof. Mehta said, these had been established basically to improve skills and knowledge of participants with a view to making them good classroom teachers and citizens. Unless one's grasp of the subject was deep and profound, he could not be a good teacher, he observed and added that the updated subject-knowledge therefore must be accompanied by necessary skills to analyse the information and the acquired knowledge. The knowledge of subject must always take precedence over all other considerations. And teachers were expected to constantly update it, he said.

In keeping with the guidelines laid down by the UGC, the main objectives of the programme were to :

- (a) understand the significance of education in general and higher education in particular, in the global and Indian contexts;
- (b) understand the linkages between education and economic and socio-cultural development with particular reference to the Indian polity, where secularism and egalitarianism are the basic tenets of society;
- (c) acquire and improve basic skills of teaching at the college/University level;
- (d) understand the organisation and management of a col-

## CAMPUS NEWS

said, were the key roles of a teacher in higher education. But today something had gone wrong in this respect. One of the important reasons was that the teacher today had lost his autonomy! He, by and large, had no voice in selection of his topics, in framing the syllabus, and sometimes in teaching the topics of his choice or specialisation. Regarding evaluation, whereas in the developed countries "those who teach, examine", here "those who teach, do not examine". Hence, corruption had crept into valuation. The irony of the system was that instead the teacher being the

complimented the UGC for establishing the Academic Staff Colleges to run Orientation Programme and Refresher Courses all across the country for a wider diffusion of knowledge and developing professional skills. Dr. Mehta had a special praise for the ASC Jodhpur, which now occupied a prominent position in the country. But he cautioned that identification of demerits of a system was often more important than recognition of its merits. For, he added, appreciation of our own weaknesses led us to greater achievements. Our training should enable participants to 'raise



lege/University and to perceive the role of a teacher in the total system; and

- (e) utilize opportunities for development of personality, initiative and creativity.

For an effective realisation of the above objectives, the programme was divided into following six modules :

- I. Environment of Indian Education
- II. Philosophy of Education and the Education System.
- III. Educational Psychology and Pedagogy of Teaching.
- IV. Skills for Subject Competency.
- V. Organisational Behaviour and Personality Development.
- VI. Management of Education.

In the first module of environment of Indian Education; group discussions were held on social and cultural environment of education; political environment of the country; and economic environment of the Indian education. Lecture-cum-discussions were held on physical environment, ecological imbalance, energy crisis and on creation of Indian identity.

The second module had sessions on aims and objects of education, ethics of teaching profession, problems of higher education; rural education and national development; rules regarding establishing degree colleges; and on problems related to the organisational pattern of education, with special reference to Rajasthan.

The panel discussion on problems of higher education veered round the theme "Why Teachers don't teach". The distinguished panelists were Dr. V.R. Mehta, Vice-Chancellor, University

of Jodhpur, Dr. M.L. Mathur, the former Vice-Chancellor and now Professor of Eminence, and Dr. R.N. Choudhary, former Director of College Education, Rajasthan.

The third module was completed through a set of different techniques. Brainstorming was done on socio-psychological characteristics of college students, syndicate sessions were held on learner and the learning process & motivation of students and teachers. It had experiential-learning sessions on teaching methodologies, media and educational technologies. It also included practical exercises on art of thinking, art of conversation, and effective college teaching. Micro-teaching, in-basket-exercise and interactive video sessions on presentation skills. Analysis of communication styles of the participants was done by three sets of people viz. by the participants themselves, their peers and the experts.

Developing reference skills, research methodologies, implementing research in colleges, planning and organisation of syllabus and development of curriculum were part of the 4th module. A workshop on framing objective type questions; and lectures on evaluation methods and examination reforms were also held.

Module V comprised micro-lab, image sharing exercises on student-teacher, and teacher-principal relations, lectures and behavioural games on group dynamics, team building, transactional analysis, conflict management, and etiquettes and manners.

The Sixth module comprised sessions on modern management techniques, student services, service rules and general financial management in universities and colleges. Students handling was discussed in-

depth through the case study method.

In all, thirteen methodologies were deployed during this orientation programme. These were, Micro Lab, Lecture-cum- discussion, Group discussion, Panel discussion, Brain storming, Behavioural games, In-basket exercise, Experiential learning, Case study, Interactive video method, Book review, Reflect session, Workshop, and Micro teaching.

Over 25 participants from the colleges of Rajasthan, Gujarat, Uttar Pradesh and Union Territory of Andamans and Nicobar attended the 4-week programme.

### Central Status for Bangalore Varsity

Karnataka State Government is reported to have urged the Centre to accord Bangalore University the status of an Urban Central University. According to Education Minister M.Veerappa Moily if Bangalore University was made an urban university, all the colleges in rural areas now affiliated to the university would be taken outside its jurisdiction and made over to other varsities.

Presently, Bangalore University had 700 colleges affiliated to it, which made it one of the biggest and most unwieldy universities in the world.

Mr. Moily said the Inter-University Board had decided to decentralise the examination system, granting autonomy to colleges and allowing them to conduct their own examinations. All universities had been sending their draft statutes to the board for approval in this regard, he added.

Mr. Moily said the Government would assist the university to com-



puterise its evaluation system completely. He said the Government was also considering the introduction of a law to make valuation compulsory for all university teachers. Several professors had been opting out of valuation, making such a law necessary, he said.

Pointing out the necessity for a total restructuring of the educational set-up in universities and for examination reforms, the minister said more functional institutes were needed to relieve the universities of their burden and improve specialised education.

### World Population Day 1991

The International Institute for Population Sciences, Bombay observed the World Population Day on 11 July 1991. To mark the occasion a symposium on the theme 'Population — Environment Interrelationships' was organized which was attended by a number of specialists belonging to different academic disciplines and working in different renowned institutions. The symposium was inaugurated by Smt. Pushpatai Hiray, Hon'ble Minister of Public Health, Family Welfare, Medical Education and Drugs, Govt. of Maharashtra. Dr. Digvijay Singh, former Union Minister for Environment presided over the inaugural function. Speakers focussed attention on different aspects of very complex interrelationships between population and environment and presented a wide spectrum of the issues related to Population and Environment.

### Kannada University

A Kannada University is proposed to be established at Hampi and is expected to start functioning from the current academic session. This was announced by the State

Education Minister Mr. Veerappa Moily in Bangalore recently.

### Fostering Punjabi Language, Art & Culture

The Syndicate of the Punjabi University at its meeting held recently under the chairmanship of Dr. H.K. Manmohan Singh, Vice-Chancellor, approved in principle certain recommendations made by the Punjabi development standing committee to foster the development of Punjabi Language, Art and Culture. It agreed to the proposals relating to publication, in punjabi, of "Geographical and Historical Nomenclature of Punjab Villages and Cities", "Directors theatre in India", Punjabi translation of macauliff's "the sikh religion, its gurus, sacred writings and authors". The University will also publish various dictionaries, encyclopaedias and thesauruses including, "encyclopaedia of social sciences", encyclopaedia of children studies", subject dictionaries of natural sciences, life sciences, lan-

guages, music and geography.

The meeting also agreed to the publication of persian-punjabi, arabic-punjabi, and french-punjabi dictionaries. It also accepted to carry out the publication of monographs of sikh gurus and renowned punjabi writers.

The Syndicate also approved (i) starting of a journal to project the research activities of the university, (ii) publication of books in languages other than punjabi which should reflect the punjabi culture, (iii) starting of punjabi feature service, (iv) publication of encyclopaedia of sikhism in punjabi alongwith english, and (v) starting of a series on science fiction writings.

### National Integration Chair

The Punjab Government has decided to set up a National Integration Chair at the Punjabi University, Patiala. It would provide Rs. 2.25 lakh for the year 1991-92 with an incremental increase of 10 per cent per annum for a period of five years.

## News from Agril. Universities

### Agricultural Officers Workshop

Dr. Khem Singh Gill, Vice-Chancellor of the Punjab Agricultural University recently inaugurated a two-day Agricultural Officers Workshop to finalise a package of practices for the coming rabi crops. Speaking on the occasion, Dr. Gill said that Punjab produced 122 lakh tonnes of wheat this year which was an all time record. He asserted that if the farmers strictly followed the farm technology generated at the University, a yield of 40 quintals per hectare could be easily ob-

tained. Dr. Gill further said that in view of the rising cost of farm inputs especially the chemical fertilizers, the farmers should use them judiciously. He suggested that after harvesting cotton, instead of wheat the farmers should grow Sunflower which yielded 8 quintals per hectare. He advised the farmers to take up the cultivation of Soyabean which was a potential industrial crop. Dr. Gill stated that Durum wheat, vegetables, basmati rice and flowers had great export potentials.



Dr. Gill disclosed that research work on the development of hybrid varieties of different crops was in progress. He hoped that a hybrid variety of rice would be available soon. Dr. Gill said that 1200 acres of land had been acquired in Faridkot district to establish a seed multiplication farm. He informed that a micronutrient testing laboratory would soon start functioning at the Bathinda Research Station of the University.

Dr. S.S.Bains, Director of Agriculture, Punjab who spoke on 'Targets and Production Problems of Rabi Crops' urged the scientists to suggest effective measures to control Karnal bunt and wild oats problems in wheat. He exhorted the scientists to educate the farmers about the proper use of fertilizers, water management and integrated pest management. In order to facilitate various farm operations, Dr. Bains urged that a handy soil testing kit, paddy transplanter, sugarcane stripper, sugarcane planter, high clearance sprayer for tall crops and a cotton-picking machine should be perfected.

Dr. K.S.Nandpuri, Director of Research of the PAU said that continued research efforts were being made towards the development of high yielding varieties and low cost production technology in order to diminish the cost of production and to increase yield per unit area. He disclosed that a number of new weedicides, insecticides and pesticides had been recommended for various rabi crops. Dr.Nandpuri stressed that the farmers should sow only the recommended varieties and use healthy and pure seed and get it treated with recommended chemicals before sowing.

Dr.G.S.Gill, Director of Extension Education of the PAU said that the farmers should change their cropping pattern and adopt diver-

sification of agriculture.

## New Research Project for PAU

Dr. V.P.S.Chahal, Professor in the Department of Microbiology and Dr. (Mrs) P.P.K.Chahal of the Department of Plant Pathology of the Punjab Agricultural University have been awarded PL-480 research project entitled 'Microbial control of plant-parasitic nematodes' under Indo-US collaboration. This project has been awarded on the basis of presentation of research findings during United States Department of Agriculture (USDA) sponsored US-Pak International Silver Jubilee Conference on Plant Parasitic Nematodes held in Karachi, Pakistan in 1986.

Since most of the nematicides used to control plant-parasitic nematodes have been banned due to their health hazards and environment pollution problems, microbial control can offer the cheapest and safest control measure of plant-parasitic nematodes which cause ex-

tensive damage to the crops.

## Vaccination Camp

A team of Veterinarians of the Department of Immunology of the College of Veterinary Science of the Punjab Agricultural University recently organized its 16th village level camp at Sarainaga in Faridkot district for the prevention of a killer disease transmitted by ticks in crossbred and purebred high milk yielding animals.

The vaccination camp was inaugurated by Mr.Harcharan Singh Brar, a leading horse breeder and former Governor of Haryana. While addressing a big gathering of livestock farmers he explained the significance of the newly developed Theileria vaccine by the PAU for the development of high milk yielding cattle in Punjab.

Dr. A.S.Grewal, Principal Investigator of the research team of PAU explained to the farmers that complete prevention (control) of losses from Theileria disease in Punjab would be achieved with the use of PAU vaccine.

## News from UGC

### Countrywide Classroom Programme

Between 3rd September to 7th September 1991 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The Programme is available on the TV Network throughout the country.

#### Ist Transmission

1.00 p.m. to 2.00 p.m.

#### 3.9.91

"We the People - I"

"Transuranium Elements"

"Breast Milk is the Best Milk"

#### 4.9.91

"The Images & Icons of Osian"

"RFLP Mapping : Monitoring Genetic Diseases"



### **5.9.91**

"Bandhaj - The Art of Tie and Dye"

"Martial Art of Orissa (Paik Dance) - I"

"Appreciation of a Poem"

### **6.9.91**

"Mobius Band"

"DNA Finger Printing-I : Technique"

"Drunken Driving"

### **7.9.91**

"Sports Medicine - I"

"Rasa Rajaita : Understanding Indian Dance - I : Kathakali - I"

"Dikara - The Traditional Folk Art of Kuaon"

### **Ind Transmission**

4.00 p.m. to 5.00 p.m.

### **3.9.91**

"Electrochemical Cells"

"Educational Technology - The Teleteacher - II"

"Nervour System & Conduction of Nerve Impulse"

### **4.9.91**

"Fire Protection Technology"

"Glimpses of Ladakh - II"

"Effect of Air Pollution on Plants"

### **5.9.91**

"Introduction to Computers"

"Texture of Literature-I-Semiotics"

### **6.9.91**

"Simplification of Switching Circuits-24 II"

"Three New Drugs"

"Wood For the Tree"

### **7.9.91**

"Artists Against Communalism - II"

"Chola Art"

## **Spot Evaluation of Colleges**

Teams of experts from the University Grants Commission consisting of UGC members, educationists, state government official, university authorities besides UGC officials will be visiting State headquarters during October, 1991-January, 1992 to discuss the proposals for developmental assistance from the UGC in the Eighth Plan period formulated by the colleges and scrutinised by the concerned universities. For some of the smaller states where the number of colleges is small, the proposed discussions have been scheduled alongwith a neighbouring State. It is estimated that there will be about 100 meeting-days to finalise the proposals.

Each State Government has been requested to nominate a nodal person or organisation and also to fix venue for the discussions.

The novel decentralised system being introduced for the first time for on-the-spot evaluation and determination of the 8th Plan outlay for developmental assistance to individual colleges is intended to avoid calling all colleges to Delhi for discussions.

The State Governments have also been advised to ensure that only those colleges, which have the prescribed enrolment and are recognised under Section 2 (f) and Section 12 (B) of the UGC Act, 1956 and are, therefore, eligible to receive assistance from the UGC are invited for discussions. Those colleges for which the process of recognition has already been initiated can also be invited. The proposals of the colleges should be accompanied by brief comments of the concerned university and the State department of higher education. Particularly for faculty positions asked for by a college, there should be a clear commitment by the

concerned State Government that it would commit itself to maintain the positions after the 8th Plan period. For building similarly the commitment of the State Government or the private management should be specifically given for providing the State or private management share where required. In the absence of such commitments, proposals of the colleges for these categories (faculty and building) would not be considered.

The Commission provides financial assistance to the colleges enlisted in the UGC list maintained under Sections 2 (f) and 2 (B) of the UGC Act during a plan period for purchase of books, journals, and equipment, appointment of teaching and technical staff, award of teacher fellowships and construction of buildings, etc. At present there are over 4000 colleges in the country which are eligible for UGC financial assistance under normal college development schemes.

## **Recognition for Oriental Colleges**

The University Grants Commission has decided to include the colleges affiliated to universities and providing education for Oriental Degrees like Acharya, Shastri, Tirtha, Siromani, Parangat, etc. in the list of colleges maintained under Section 2 (f) of the UGC Act, 1956. This is being done in consonance with the Commission's continued endeavour to encourage oriental learning on traditional lines through special treatment to oriental institutions imparting such education.

The enlistment confers Commission's recognition upon a college or institution affiliated to a university. This may enable such college to obtain financial assistance from the UGC for development.

An institution to be so enlisted must be a constituent unit of, affiliated to, or recognised or run



directly by a university established or incorporated under a Central Act or a Provincial Act or a State Act. It should provide instructions upto a bachelor's or postgraduate degree or provide instructions for a diploma course of a duration not less than one academic year and for which the minimum qualification for admission is a bachelor or an equivalent oriental degree.

Since the nomenclature of Oriental degrees differs from university to university the equivalence of degrees as approved by the Ministry of Human Resource Development, Government of India, will be accepted.

### 23 Subject Panels Constituted

The University Grants Commission has constituted 23 Subject Panels in various subjects in Humanities, Social Sciences, Science, Engineering and Technology, and Management Studies to advise on matters relating to teaching and research in the respective subject specialisation to help the Commission take steps for improvement of standards keeping the national and regional needs in view. A total of 240 academics selected from all parts of the country will be participating in these panels. In addition, each panel will also use services of experts for preparing material on specified aspects of teaching and research for developing the status report on payment of honorarium, if need be.

The panels will advise the Commission on measures for enhancing the quality of work in teaching and research, prepare periodically status report regarding research facilities, research areas, performances and perspectives, and indicate areas of thrust and importance and suggest measures to improve quality, and render advice on such other matters as may be referred to them by the Commission.

The Commission constitutes once in two years Subject Panels of experts from universities and other institutions of higher education which periodically review the course contents at undergraduate and postgraduate levels to update them and maintain and develop relevance. These panels have so far been holding their meetings at the office of the Commission at New Delhi only.

After reviewing their working the Commission has felt that due to such centralised mechanism adopted for

### Communication

## Value Education – Hypocritic?

S.K. Verma, in his article 'Value in Education or Education for Values', (*University News* 22 July 1991) has tried to point out the need for generating an atmosphere and developing a methodology for inculcating certain values in the learners. He suggests a fundamental change in the teacher-education programme and assigns a big responsibility to teachers.

After reading the article the following ideas are conveyed :

a) Educational values have something to do with the social objectives of a society at a given time.

b) It relates to a set of ethical ideas and some commitments at the social and, sometimes, political level.

c) Values are imparted not through textbooks and other teaching materials but through greater interaction between teachers and students.

d) The curriculum in practice today is insufficient for this purpose.

The terms 'value', 'local value', 'global value' etc. are left undefined or have been defined in a very vague manner.

" People all over the world have begun to feel that education generating, technological and

the organisation of their meetings very often the various Subject Panels either fail to meet or even if they meet, some members do not attend. The Commission, has, therefore, decided that the Subject Panels can henceforth also meet at other places of their convenience, preferably at the places of work of the convenors of the concerned Subject Panels. The Commission would provide lumpsum grant to the convenor for meeting travel expenses etc. for holding the panel meetings.

material progress alone is not enough. There is something beyond this which we must achieve – this something must help us transcend the barriers of caste, creed, religion and territory and live like members of one great community in an atmosphere of love and peace."

It hits at a feeling of universal brotherhood. Similar other values like truth, non-violence, honesty, matter-of-factness, frankness etc. are advocated.

The question is whether all these values really do any good in practical life ? In a society dominated by anti-values like adjustability, practicality, worldly wisdom, opportunism and so on can one still afford to stick to the conventional value systems ? Are we not misguiding the students by preaching them to follow the values which have become obsolete ?

The question of value education is utterly hypocritic. It is more an attempt to befool ourselves and hide the stark reality behind an illusory spectacle of so called ethics. Would it not be all right to sit down and reconsider our definition, aims and objectives of value education ?

Hemendra Singh Chandalia  
Asstt. Prof. in English Literature  
Rajasthan Vidyapeeth  
Udaipur - 313 001 (Rajasthan)



# AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on higher education. Among the topics prominently represented are educational sociology, educational planning, educational administration, teaching & teachers' training, examinations, economics of education and country studies. Developing fields of adult education, continuing education and distance education, and educational technology are also well stocked. The library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of higher education. Files of annual reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to the AIU Library'.

The library receives about a 100 periodical titles on higher education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'. Similarly our column 'Education News Index' reports editorials and articles on higher education published in over 20 newspapers that are received in the library from all over the country.

The library is steadily building up a collection of audio and video cassettes on matters educational and maintains a well appointed Audio-Visual Room equipped with a double deck audio cassette recorder, a VCR and a colour TV monitor, and an overhead projector.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research Scholars and students of education are welcome to use these resources. The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

## RESEARCH IN PROGRESS

### A list of Research Scholars registered for Doctoral Degrees in Indian Universities

#### PHYSICAL SCIENCES

##### Statistics

1. Lesitha, G. **Arma modelling in repeated sample surveys.** Kerala. Dr R N Pillai, Prof and Head, Department of Statistics, University of Kerala, Kariavattom.

##### Physics

1. Koka, Subbaravamma. **Fluctuations in type-II superconductors and related problems.** Hyderabad. Prof K N Shrivastava, School of Physics, University of Hyderabad, Hyderabad.

##### Chemistry

1. Asrani, Loni. **Studies in transport of alkali and alkaline earth metal cations facilitated by non-cyclic ionophores.** Vikram. Dr (Smt) Uma Sharma, Lecturer, Department of Chemistry, Vikram University, Ujjain.

2. Jain, Pramod Kumar. **Oxidation of organic compounds by active manganesedioxide.** Vikram. Dr T C Sharma, Department of Chemistry, Vikram University, Ujjain.

3. Jain, Preeti. **Phytochemical and biological studies of regionally available medicinal plants.** Vikram. Dr B K Mehta,

Lecturer, Department of Chemistry, Vikram University, Ujjain.

4. Kale, Deepak. **Study of transport of alkali and alkaline earth metal cations across liquid membrane using crown ethers.** Vikram. Dr V W Bhagwat, Reader, Department of Chemistry, Vikram University, Ujjain.

5. Mahadevan, Neena. **Studies in transport of alkali and alkaline earth cations facilitated by 'Higericin' family antibiotics type ionophores.** Vikram. Dr (Smt) Uma Sharma, Lecturer, 11/2, Kshipra Bhawan, Munj Marg, Freeganj, Ujjain.

6. Mathur, Rashmi. **A kinetic study on the oxidation of some substituted benzaldehydes by chloramine-T in micellar system.** Vikram. Dr S K Solanki, Reader, Department of Chemistry, Vikram University, Ujjain.

7. Mishra, Deepti. **Solution studies and isolation of alkali and alkaline earth metal complexes of non-cyclic polyethers.** Vikram. Dr (Smt) Uma Sharma, Lecturer, Department of Chemistry, Vikram University, Ujjain.

8. Pare, Brijesh. **Kinetic and mechanistic studies in the oxidation of some carboxylic acids.** Vikram. Dr V R Shastry, Prof and Head, Department of Chemistry, Vikram University, Ujjain.



9. Qureshi, Rafat. Solution studies and isolation of alkali and alkaline earth metal complexes of non-cyclic oxocrowns. Vikram. Dr (Smt) Uma Sharma, Lecturer, 11/2, Kshipra Bhawan, Munj Marg, Freeganj, Ujjain.

10. Radhakrishnan, Asha. Kinetic and mechanistic studies in surfactant catalysed oxidation of primary alcohols by N-bromobenzamide. Vikram. Dr V R Shastri, Prof and Head, Department of Chemistry, Vikram University, Ujjain.

11. Ravinder Reddy, S. Synthesis and reaction of substituted chalcones. Vikram. Dr T C Sharma, Prof, Department of Chemistry, Vikram University, Ujjain.

12. Shastri, Lokendra. Studies on kinetics and mechanism of oxidation of some metal complexes by peroxodisulphate. Vikram. Dr S K Solanki, Reader, Department of Chemistry, Vikram University, Ujjain.

13. Shrivastava, Prabhu Dayal. Assessment of the pollutant load of effluents and irrigational potential. Vikram. Dr (Smt) Shubha Jain, Lecturer, Department of Chemistry, Vikram University, Ujjain and Dr P S Dubey, Prof and Head, Department of Chemistry, Vikram University, Ujjain.

14. Singh, Kalpana Virendra. Chromatographic studies on natural and synthetic zeolites. Vikram. Shri K Shrinivasulu, Reader, Department of Chemistry, Vikram University, Ujjain.

15. Thomas, O. Studies on thermal annealing of chemical radiation damage and thermo gravimetric studies on the effect of irradiation of some inorganic oxy salts. Kerala. Dr C James, Department of Chemistry, University of Kerala, Thiruvananthapuram.

#### Earth Sciences

1. Joshi, Sanjay Balkrishna. Geomorphological and sedimentological studies of the coastal tract between Rajapur Creek and Deogarh Creek, Ratnagiri District and Sindhudurg District, Maharashtra. Shivaji. Dr R K Sukhtankar, Shivaji University Centre for Post Graduate Studies, Solapur.

2. Kulkarni, Anil Vishnupant. A remote sensing based glacier inventory and mass balance study in the parts of Chandra River Basin, Himachal Pradesh. Shivaji. Dr K B Powar, Vice-Chancellor, Shivaji University, Kolhapur.

3. Kulkarni, Dhaval Battatrey. Geological, fluid inclusion geothermometric and ore genetic studies around Dhukonda Mine, Guntur District, Andhra Pradesh. Shivaji. Dr R P Patil, Department of Geology, Shivaji University Centre for Post Graduate Studies, Solapur.

4. Kulkarni, Sanjay Anant. Geological studies of the Southern Maharashtra Coastal Tract, Vengurla, District Sindhudurg. Shivaji. Dr R K Sukhtankar, Department of Geology, Shivaji University Centre for Post Graduate Studies, Solapur.

#### BIOLOGICAL SCIENCES

##### Biochemistry

1. Mohanty, Kahyane Prava. Biochemical effects of some antileprotic drugs on albino mice, *Mus musculus*. Sambalpur. Dr T V Rao, Reader, Department of Life Sciences, Sambalpur University, Jyoti Vihar, Burla.

2. Samal, Satyabrata. Alteration in chloroplast and mitochondrial activities of primary leaves of wheat seedlings grown under high light intensity. Sambalpur. Dr N K Choudhury, Reader, Department of Life Sciences, Sambalpur University, Jyoti Vihar, Burla.

##### Medical Sciences

1. Chawla, Geeta. Investigation on compounds of potential biological activity. Jamia Hamdard. Dr M S Y Khan.

2. Sandeep Kumar. Tumour localization of TC-99m radiopharmaceutical using liposomes as a carrier: Effects of liposomal composition, charge and size. Jamia Hamdard. Dr R K Kharal and Dr S N Sharma.

3. Sharma, Poonam. Study on compounds of potential pharmaceutical interest. Jamia Hamdard. Dr M S Y Khan.

## THESES OF THE MONTH

### A list of Doctoral Theses accepted by Indian Universities

#### PHYSICAL SCIENCES

##### Mathematics

1. Chakrabarti, Purnima. Infinitesimal transformations in affinely connected spaces with recurrent properties. Calcutta.

2. Chandrasekar, D. Transonic flow of a real fluid and some problems using a new theory of shock dynamics. I I Sc.

3. Ghosh, Bimalendu. Generalized continuous functions, derivatives and integrals of Perron type. North Bengal.

4. Jadhav, Bharat Pandurang. Some problems in non-Newtonian Power Law fluids. Shivaji. Dr B B Waghmode, Department of Mathematics, Shivaji University, Kolhapur.

5. Jaya Lakshmi, K. Stability, oscillation and periodicity of solutions of ecosystems with time delays. Osmania.

6. Johnson, T P. Some problems on lattices of fuzzy topologies and related topics. CUST. Dr T Thrivikraman, Prof and Head, Department of Mathematics and Statistics, Cochin University of Science and Technology, Kochi.

7. Krishna Rao, K Venkata. On kinematics of fluid flows. Osmania.

8. Kubade, Manohar Krishna. Categories of derivation modules and complexes. Shivaji. Dr H V Kumbhojkar, Department of Mathematics, Shivaji University, Kolhapur.

9. Mathew, George. Studies on some conservation laws of non barotropic flows. CUST. Dr M Jathavedan, Reader, Department of Mathematics and Statistics, Cochin University of Science and Technology, Kochi.



10. Porwal, Sushama. Productivity analysis of M P W's in PHC's of Gwalior District with special reference to work environment and individual characteristics. Jiwaji. Dr B M Agarwal, Prof, Department of Mathematics, Govt Science College, Gwalior; Dr A R Chaurasia, Lecturer, Department of Demography and Statistics, G R Medical College, Gwalior and Dr A K Govila, Prof and Head, Department of Preventive and Social Medicine, G R Medical College, Gwalior.

11. Rajabali, Jaydani Yekta. Two dimensional boundary layer problems in porous media. Shivaji. Dr B B Waghmode, Department of Mathematics, Shivaji University, Kolhapur.

12. Ray, Bidyut Kumar. Studies on the growth properties and spaces of entire functions in several complex variables represented by multiple power series. Calcutta.

13. Shanker, B. Computational techniques in hydromagnetic, visco-elastic and porous flows. Osmania.

14. Sreenivasa Kumar, P. Algorithmic and structural results on chordal graphs. I I Sc.

15. Surve, Gulab Pandurang. Studies in general relativistic continuum mechanics. Shivaji. Dr G G Asgekar, Department of Mathematics, Shivaji University, Kolhapur.

#### Astronomy

1. Sudhaker Reddy, S. Study of ionospheric irregularities. Osmania.

#### Physics

1. Behera, Narayan. Some studies of conformal field theories on higher genus Riemann surfaces. I I Sc.

2. Bhatnagar, Anjali. Studies on the mechanoluminescence of copper doped (Zn. Cd) S mixed phosphors. Durgawati. Dr B P Chandra, Prof, Department of Physics, Rani Durgawati Vishwavidyalaya, Jabalpur.

3. Chandrayan, Vilas Rajeshwar. Investigations in  $\text{Li}_2\text{SO}_4:\text{Ag}_2\text{SO}_4$  system for solid state battery application Nagpur. Dr K Singh, Department of Physics, Nagpur University, Nagpur.

4. Das, Putul. Study of the hydrolytical products formed from  $\text{FeCl}_3$  solution using X-ray diffraction, Mossbauer spectroscopy and electron microscopy. Calcutta.

5. Deshpande, Varsha. Analytic and numerical studies of neural network models of associative memory. I I Sc.

6. Ghosh, Sugopa. Heavy quarkonia and supersymmetric particles. North Bengal.

7. Laxma Reddy, A. Thermally stimulated processes of conjugate impurities in alkali halide crystals. Osmania.

8. Mandlik, Amrutkuwar Shamrao. Structural, electrical and optical properties of manganese oxide films. Shivaji. Dr S H Pawar, Department of Physics, Shivaji University, Kolhapur.

9. Mohan, Pardeep. Study of various aspects of pressure measurements in vacuum systems. IIT Delhi. Dr J K N Sharma, Deputy Director, National Physical Laboratory, New Delhi and Prof K L Chopra, Director, Indian Institute of Technology, Kharagpur.

10. Murgi, Baburao Dundapa. Electrical transport and calorimetric studies of amorphous semiconducting chalcogenide compounds. Shivaji. Dr J K Zope, Department of Physics, Shivaji University, Kolhapur.

11. Pandian, V. Study of group I B impurities in silicon and gallium arsenide and photoquenching effect of EL2 defect in gallium arsenide. I I Sc.

12. Patil, Promod Shankarrao. Studies on ferric oxide semiconductor and its use in rechargeable liquid junction solar cells. Shivaji. Dr S H Pawar, Department of Physics, Shivaji University, Kolhapur.

13. Praburam, G. Parametric instabilities of lower-hybrid waves in a beam plasma system. IIT Delhi. Prof V K Tripathi, Department of Physics, Indian Institute of Technology, Delhi.

14. Rao, Radhika Rani. Studies of the vibrational and magnetic properties of layered compounds. I I Sc.

15. Ravindran, T. Non-ohmic conduction, electrical switching and magnetoresistance of quasi one-dimensional conductors at high pressures. I I Sc.

16. Ray, Ratneswar. Studies on high power pulse techniques for cyclotron bunch selection and linear induction acceleration. Calcutta.

17. Sandya, S. Pulsed NQR instrumentation and investigation of impurity effects in sodium and barium chlorates. I I Sc.

18. Sangale, Shivjirao Mahadeo. Luminescence studies of  $\text{ZnO}:\text{Bi}^{3+}:\text{Dy}^{3+}$  phosphors. Shivaji. Dr C S Shalgaonkar, Reader, Department of Physics, Shivaji University, Kolhapur.

19. Satyanarayana Rao, K V. Preparation and characterization of pure and doped PVP polymer films. Osmania.

20. Subramaniam, P C. Study of nonlinear pulse propagation in optical fibres. IIT Delhi. Prof A K Ghatak, Department of Physics, Indian Institute of Technology, New Delhi.

21. Sukumar, B. Investigations on impurity and exciton states in semiconductors under external perturbations. Madurai.

22. Suryavanshi, Sharad Shivaji. Characterisation, electrical and magnetic properties of some substituted ferrites. Shivaji. Dr S R Sawant, Department of Physics, Shivaji University, Kolhapur.

23. Verma, Ashish. Application of thermoluminescence in forensic investigation: Luminescence of  $\text{CaO}:\text{Eu}, \text{Nd}, \text{Sm}$  Phosphors. HS Gour. Prof S Sivaraman, Head, Department of Physics, Doctor Harisingh Gour Vishwavidyalaya, Sagar and Dr R K Pandey, Asstt Prof, Department of Physics, Doctor Harisingh Gour Vishwavidyalaya, Sagar.

#### Chemistry

1. Adhikari, Asis. Organotin derivatives of some selected ligands containing  $\text{O}-\text{OH}-\text{C}(=\text{O})-\text{N}-\text{C}(=\text{O})$  and  $\text{HO}-\text{C}(\text{OH})-\text{C}(=\text{O})$  and some related groups. North Bengal.

2. Agarwal, Shashi. Studies on kinetics and mechanism of certain redox processes in solution. Jiwaji. Dr K C Nand, Reader, Department of Chemistry, Jiwaji University, Gwalior.

3. Ansari, Shahid Akhtar. Chemical and special studies of modified steroids. AMU. Prof Shaiullah Sulaiman, Department of Chemistry, Aligarh Muslim University, Aligarh.

4. Bandiwadkar, Subhash Pandurang. The potentiometric studies substituted carboxylic and hydroxy acids and their metal complexes. Shivaji. Dr A M Chavan, Reader, Department of Chemistry, Shivaji University, Kolhapur.

5. Bhavani, A Kanaka Durga. NN-linked bis azoheterocycles: Synthesis, thermolysis and photolysis of 3, 3-bisquinazolin-4, 4-



diones and 4,4-bis 1, 4-benzodiazepin-2, 2',5', 5'-tetrones. Osmania.

6. Chaudhari, Shrirang Keshav. **Thermodynamic properties of binary liquid mixtures**, Shivaji. Dr S S Katti, Physical Chemistry Division, National Chemical Laboratory, Pune.

7. Dasgupta, Sarmila. **Induction of oxidant-state in V79 Chinese hamster cells: Cytotoxicity and mutation**. Calcutta.

8. Desai, Kanchan Pradeep. **The role of inner shell transitions of EL phosphors**. Shivaji. Dr D S Ambardekar, Durga Apartments (IO), Mali Colony, (Takala), Kolhapur.

9. Deshkar, Ashok Mahadeorao. **Studies on binding of mercury on some commonly available Indian tree barks**. Nagpur. Dr S S Dara, Prof, V H College of Engineering, Nagpur.

10. Dhandayuthapani, B. **Some aspects of mechanism of corrosion and inhibition of pure nickel in acid solutions**. Madurai.

11. Dheenadayalan, S. **Electrochemical phenomena at the metal solution interface**. Madurai.

12. Easwaramoorthy, D. **Studies on the oxidation of amino acids: Kinetics and mechanism of N-chlorosuccinimide promoted oxidative decarboxylation**. Madurai.

13. Gopal Reddy, V. **Some new zaz heterocycles derived from 2-carbethoxyquinazolin-4 (3H)-ones**. Osmania.

14. Gupta, Akhlesh. **Preparation characterization and photoelectrochemical behaviour of CuInS<sub>2</sub> and CuInSe<sub>2</sub> thin films and photoelectrochemical investigation on polypyrrole coated CdTe**. IIT Delhi. Prof A S N Murthy, Department of Chemistry, Indian Institute of Technology, New Delhi and Dr G N Rao, Department of Chemistry, Indian Institute of Technology, New Delhi.

15. Haridas, K. **Compounds active on arthropods**. Baroda.

16. Hosur, Manohar Chanabasappa. **Nitrogen heterocycles of pharmacological interest**. Karnatak. Dr S C Bennur, Reader, Department of Chemistry, Karnatak University, Dharwad.

17. Iqbal, Mohamed Jameeluddin. **Investigations on the role of individual groups in the overall performance of an addition agent during electrodeposition of metals**. Bangalore. Dr B S Seshadri, Prof, Department of Chemistry, Central College, Bangalore.

18. Jagtap, Mansing Krishnarao. **Kinetics of oxidation of some monosaccharides by alkaline bromate solution**. Shivaji. Dr S N Deshmukh, Department of Chemistry, Shivaji University, Kolhapur.

19. Jain, Sanat Kumar. **Phytochemical investigation of cardenolides from some indigenous apocynaceae plants**. H S Gour. Prof V K Saxena, Department of Chemistry, Doctor Harisingh Gour Vishwavidyalaya, Sagar.

20. Joshi, Dinesh Kumar. **Studies in heterocyclic and organomercury chemistry**. I I Sc.

21. Khan, Riaz Ahmad. **Studies in natural products of biological interest**. AMU. Prof Shaiullah Sulaiman, Department of Chemistry, Aligarh Muslim University, Aligarh.

22. Madhole, Rabika Dattatraya. **Studies on electrolytic deposition of samarium and samarium based alloyed films**. Shivaji. Dr S H Pawar, Department of Physics, Shivaji University, Kolhapur.

23. Mansoor Ahmad. **Chemistry of natural products**. AMU. Prof M Ilyas, Department of Chemistry, Aligarh Muslim University, Aligarh.

24. Mitra, Ajit Kumar. **Radiochemical studies on adsorption behaviour of chromium (VI) on certain metal oxides**. IIT Delhi.

Prof M M Bhutani, Department of Chemistry, Indian Institute of Technology, New Delhi.

25. Momin, Altaf Mahamad. **Kinetics and mechanism of oxidation of some substituted amides by alkaline potassium permanganate**. Shivaji. Dr S G Sankpal, Department of Chemistry, Shivaji University, Kolhapur.

26. Mukhopadhyay, Satyabrata. **Studies on processing of vegetable oils and their evaluation as bakery shortenings**. Calcutta.

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# CLASSIFIED ADVERTISEMENTS

## SHIVAJI UNIVERSITY KOLHAPUR

### Corrigendum to Advertisement No. 1 of 1991

Dated : 1-8-91

Please add and read the following as (iii) after (ii) under the Note : appearing in the middle of the first page. "(iii) Candidates from Open category are not eligible to apply for the posts at Nos. 3, 9, 12, 16 and 27."

The qualification for the post of Assistant Director No. 19 be substituted by the following.

#### ASSISTANT DIRECTOR

##### A) Essential

i) Good academic record in the subject of Adult/Continuing Community/Extension Education/Community Development from a recognised Indian University or an equivalent degree from a foreign university.,

ii) M.Phil. or Ph.D. in a subject related to adult learning or Ph.D. in a subject under social sciences or Education/Evidence of published learning materials and learning resources on areas listed in (i) above or published research in any of the relevant area/areas indicated above.

OR

i) Good academic record in the subject of Social Sciences/Social Work/Humanities/Education/Sciences/Home Science.

ii) Post Master's diploma in Adult and Continuing Education from a recognised Indian University or an equivalent diploma/degree from a foreign university.

iii) M.Phil. or a Ph.D. in a subject related to adult learning or a Ph.D. in a subject under Social Sciences or Education or Evidence of published learning materials and learning resources in adult/continuing/community/extension education/community development or published in any of these area/areas.

B) About five years experience of field work/teaching or research in a subject having bearing on Adult/Continuing Extension/Community/Non formal Education or Community Development. This condition may be relaxed on the recommendation of the selection committee.

The last date of receipt of application for all posts has been extended upto 25-9-1991.

Kolhapur  
Date : 13-8-1991

Dr. B.P.Sabale  
REGISTRAR

## OFFICE OF THE REGISTRAR DIBRUGARH UNIVERSITY

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Establishment Branch

Advertisement No.8/91

Applications are invited for the following posts:-

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  - (b) 1(One) Open.
2. 2(Two) Posts of Lecturer in Statistics:
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- (a) A Doctorate degree or research work of an equally high standard.
- and
- (b) Consistently good academic record with Ist class or high 2nd Class (in the seven point scale) Master degree in a relevant subject from an Indian University or an equivalent degree from a foreign University. Having regard to the need for developing interdisciplinary programmes, the degree in (a) and (b) above may be in relevant subject. Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard it may relax any of the qualifications

prescribed in (b) above for the post of Lecturer.

Provided further that if a candidate having a Doctorate degree or equivalent research work is not available or is not considered suitable, a person possessing a consistently a good academic record (Weightage being given to M.Phil or equivalent degree or research work of quality) may be appointed provided he has done research work for atleast two years or has practical experience in a research Laboratory/Organisation on the condition that he will have to obtain a Doctor's degree or give evidence or research work of equivalent high standard within eight years of his appointment as Lecturer failing which he will not be able to earn future increment until he fulfils these requirements.

Provided further that if a candidate has first class career (60% or above marks) all through from Matriculation up-to the Master degree level, such a candidate can be duly considered by the Selection Committee for appointment as Lecturer by relaxing the qualifications for research experience degree.

9(Nine) copies of applications in plain papers giving full bio-data including (1) Name in full (in block letters), (2) Father's name, (3) Date of birth, (4) (a) Permanent address, (b) Present address, (5) Present occupation if any (6) Present salary drawn if any and the salary expected, (7) Academic career in detail from Matriculation/onwards showing division/class, aggregate percentage of marks, School/College/University from which appeared (Attested copies of Marksheets, Certificates should be enclosed), (8) Details of appointment held with designations, duration, nature of works and name of employers, (9) Research con-

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For details, please look into the GATE - 92 posters in your Institutions/Universities,

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tributions with copies of reprints or research experiences supported by documentary/evidence, (10) Name and address of 2(two) referees not related to the candidates together with an application fee of Rs.10/- (Rupees Ten), and Rs.5/- (Rupees Five) for S.C. & S.T. candidates only by crossed I.P.O. drawn in favour of the REGISTRAR, DIBRUGARH UNIVERSITY, DIBRUGARH should reach the undersigned on or before 23.9.1991.

The number of this advertisement and name of the post applied for must be referred to in the application. Persons already in employment should apply through proper channel or with a "No Objection Certificate" from the present employer. All prints of the research papers published must be attached.

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REGISTRAR

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# University News

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## IUSB Meets at Mysore



From L to R : Shri V. Chikkavenkatappa, Director of Physical Education, Mysore University, Shri V.R. Mehta, Vice-President, AIU & Vice-Chancellor, Gujarat Ayurved University, who presided over the meeting of the Inter-University Sports Board, and Dr. G.S. Sivia, Secretary of the Board.



# GATE - 92

## GRADUATE APTITUDE TEST IN ENGINEERING

Admission of Indian Nationals to postgraduate courses, with scholarship, in Engineering/Technology/Pharmacy/Architecture at engineering colleges/Institutes in the country will be open to only those who qualify through GATE. **GATE is conducted on National Basis Every Year** on the second Sunday of February. While qualifying in GATE is essential, final selection and award of scholarship will be governed by the procedures laid down by the Institution offering admission. Sponsored candidates desirous of availing of the scholarship must have qualified in GATE.

GATE is a mandatory qualification for self financing foreign students and children of Indians including non-resident Indians, who hold non-Indian passports but have obtained their qualifying degrees from Indian Institutions/Universities for admission to postgraduate courses. Admission of such candidates will be subject to Government of India clearance and they will not be entitled for scholarship.

### ELIGIBILITY

- a) Bachelor's degree holders in Engineering/Technology/Architecture/Pharmacy and those who are in the final year of one such programme.
- b) Master's degree in Agricultural Sciences/Chemistry/Computer Applications/Earth Sciences/Life Sciences/Materials Science/Mathematics/Mineral Dressing/Physics/Statistics etc. and those who are in the final year of one such programme.
  - i) If the qualifying degree is Master of Computer Applications, the Bachelor's degree must be in Science and Mathematics.
  - ii) If the qualifying degree is M.Sc by research/correspondence, the degree must have been obtained at the time of submitting the application form.
- c) Students in the second year or higher of the post-B.Sc. Four Year Integrated Master's degree programme in Engineering/Technology or in the third year or higher of Five Year Integrated Master's degree programme in Engineering/Technology.
- d) Candidates with professional qualifications like AMIE by examination recognised by UPSC as equivalent to B.E./B.Tech. for purposes of employment, are also eligible to appear in GATE. They should have completed all the requirements of their programme at the time of submitting the application form.

### IMPORTANT DATES

Information Brochure and Application Forms issued from	October 21, 1991 (Monday)
Last Date for Receipt of request for Application Forms (by Post)	November 04, 1991 (Monday)
Last Date for Issue of Brochure and Application Forms from GATE Offices (all IITs and IISc)	November 27, 1991 (Wednesday)
Last Date for Receipt of Completed Application Forms in the respective IIT/IISc	November 29, 1991 (Friday)
Date of Examination	February 09, 1992 (Sunday)

### INFORMATION BROCHURE AND APPLICATION FORM

Information Brochure and Application Forms will be issued from 21 October 1991. These can be obtained\*

1. a) by sending the application fee of Rs. 50/- by a crossed Bank Draft drawn in favour of IIT..... payable at ..... (insert the place of IIT to which you are making the request) or Indian Institute of Science, Bangalore, payable at Bangalore. In case of drafts drawn on State Bank of India for IIT Bombay, these should be made payable at SBI, IIT, Powai. In case of drafts drawn on State Bank of India for IIT Delhi, these should be made payable at SBI, IIT, Hauz Khas, New Delhi (Branch No. 1077).
  - b) by enclosing a requisition letter giving the Bank Draft details and two slips of size 5 cm x 10 cm indicating the candidate's postal address in CAPITALS. Requests can be made to any IIT/IISc at the addresses given below OR
  2. in person from the GATE offices of all the IITs and IISc Bangalore against a crossed demand draft as detailed above (on all working days 10.00 A.M. to 4.00 P.M.).
- \* Students from the same Institution desirous of getting a number of brochures by post/at counter may send/bring a demand draft of consolidated amount and a list of students, certified by the Head of Institution.
- \* Brochures may also be made available against cash at specified branches of some banks.

#### Postal Addresses from where application forms can be obtained:

Chairman GATE, Indian Institute of Science, Bangalore 560 012  
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**Ph.D PROGRAMMES:** Candidates qualifying in GATE are also eligible for scholarships for PG programmes leading to Ph.D degrees in Engineering & Science. However, admission and award of scholarships will be governed by the rules & regulations of the Institutions offering such admissions.



# UNIVERSITY NEWS

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## IN THIS ISSUE

Need for Professionalism in Teachers	6
Evaluation of Teachers by Students	7
Reorienting Teacher Education in India	8
What Ails Higher Education in Madhya Pradesh	12
Convocation University of Delhi, Delhi	16
Campus News	
Delhi University to Stress on Tutorials	19
Database Search Facilities at IGNOU	19
Environment Awareness Clubs	20
Agriculture	
Workshop on Rice Milling and Export	22
News from UGC	
Countrywide Classroom Programme	23
GAES Fellowships	23
News from Abroad	
Catching Up with the Rich	24
Current Documentation in Education	29
Theses of the Month	30
Classified Advertisements	35

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of the Association.

Editor :  
SUTINDER SINGH

## Role and Responsibility of Teachers

N. Venkataiah **C. P. T. B. I., MYSORE**

Of all the factors which determine the quality of education and its contribution to national development, teacher is undoubtedly the most important. It is on his personal qualities and character, his educational qualifications and professional competence that the success of all educational endeavours must ultimately depend. H.G. Wells aptly said that 'the teacher is the real maker of history'. Teacher has a great responsibility in moulding the personality of the students. It is the teacher who will influence their attitudes, values, interests, morals, ideals, conduct and behaviour. The Kothari Commission on education rightly said that 'destiny of India is being shaped in her classrooms'. Indeed teachers have important role to play in shaping the future generation. Teachers must, therefore, be accorded an honoured place in society.

### Teachers of the Past

In ancient times, teachers were respected even by kings due to their high qualities of head and heart. Our history offers an excellent record of teachers to us. Shivaji was made by his teacher. Gandhiji and Vinoba Bhave owed their greatness to their teachers. The teachers of the past had the ideal of simple living and high thinking before them. They possessed great spiritual power and commanded respect everywhere.

### Present-day Teachers

In recent years, teachers have been slowly drifting away from the high ideals and praiseworthy practices that our ancient 'gurus' and the earlier generation of teachers had set before us. They are in general after material gains. Not that they should be indifferent to these, but there is an unhealthy race for wealth and position. They forget the examples of great teachers. They also forget that they belong to a noble profession which demands dedicated service to the cause of the youth and also of the country.

There are a number of incidents like boycotting the examinations, staging strikes, organising demonstrations and processions, protesting against government's apathetic attitude towards their legitimate grievances such as insecurity of service, irregular payment of salaries, heavy workload, non-payment of arrears, lack of a fair deal for some cadres of teachers, refusal to extend basic facilities like the family benefit fund scheme, the gratuity scheme, the liberalised family pension scheme etc., home travel concession and the reimbursement of medical expenses to the teachers working under private managements. When the sense of urgency required from the government to resolve problems is wanting, the frustrated teachers have been adopting trade union methods to get a quick redressal of their grievances. The sensitive point to be noted is that when the teachers are in the streets, they cannot preach morals to their students.

There can be and there must be a remedy for such an unhappy state of affairs. If the teachers also fall in line with the students in conducting strikes for resolving their problems, the future of our country will indeed be bleak and dark. For the students observe the activities of their teachers whom

*\*Professor & Dean, Faculty of Education, University of Mysore,  
Manasgangotri, Mysore-570 006.*



they consider as models for them. If the students are brought up without high ideals, a strong character and an urge to serve the country and its people, with only instincts, untamed emotions and selfishness to guide their conduct in life, how will the country fare under their management in the future?

Teachers should not give any scope to the government to argue that the problem of student indiscipline largely owes its origin to the indiscipline and instigation of teachers. Similarly, the government should be sympathetic in resolving the genuine problems of teachers. The grievances of the teachers should not be turned down to the extent that the teachers are helpless and they have no other alternative except to resort to strikes. The problems of teachers can be solved amicably through discussions. A consultative committee may be constituted at the State level for discussing the problems of teachers and suggesting the ways to resolve them. The committee may convene periodical conferences of members of teachers' associations and teacher MLCs for focussing attention on the teachers' problems. The more the government takes interest in the problems of life of the teacher, the more interest he takes in the growth of the institution as well as in the welfare of society.

It is unfortunate that there are some teachers who are ill-educated, ill-adjusted, dispirited and frustrated and who hardly foresee the possibilities of the service implicit in educational programmes. They lack inspiration and a sense of dedication. They enter the profession by backdoor methods and they do not want to take the minimum pains needed for their professional growth. It is essential to evolve objective measures to weed out such misfits though they are small in number.

When we compare teachers in India to their counterparts in other developed countries, we feel that our teachers in general lack initiative and a spirit of enquiry. Even with a moderate will and sincerity and initiative on the part of teacher in a good cause can work wonders. A teacher should be occupied with questions regarding how, when, why and where and he should try to explore his subject as well as his students so as to facilitate his work.

#### **Widening Communication Gap Between Teachers and Students**

The average classroom situation is mostly characterised with drabness in social interaction between teachers and students at all levels. Due to a diversity of factors there are many kinds of role conflicts on the part of teachers, disharmony in the classroom as a social group and interplay of several disintegrative social

processes operating therein. The traditional ties of respect and affection which glorified the relations between teachers and students in the past have given way to hostility and intolerance especially on the part of students because they too have tasted the forbidden fruits of too much democratisation. In this process we have completely forgotten the prime importance of main human values, leading us to frustration. Teachers and students meet and hate each other with no cordial social contact between them. Today, students take pleasure in arrogance, disobedience and defiance. Though the authority is in the hands of teachers, they feel helpless; situation is growing serious day by day. We should also ask questions : Are the students only responsible for this state of affairs? Where are those teachers whom the students used to emulate? Have the teachers not failed as models to be emulated by students?

Times are changing and there is a great need to redefine and change the teacher-pupil relationship from an authoritarian one to a more human relationship. Helping rather than constructing and nurturing rather than building is the need of the hour. For this a good deal of knowledge of students on the one hand and flexibility in attitudes on the other is demanded of teachers. If the social interaction between the teacher and students is to be regularised on genuine educational patterns, a certain kind of relationship — to love and to be loved, is to be established.

Have the teachers failed in their mission and duty towards young generation? Though indiscipline among students has been the talk of the day and the public is suspicious about the teachers and even go to the extent of saying that teachers are responsible for the indiscipline of students, it is essential to remember that there are innumerable factors associated with it. What is the use of blaming the teachers alone? There may be slight slackening in the role to be played by the teachers. They might not have been fully successful in their mission but we cannot say that they have failed in their mission and duty towards the young generation. With the advance in all fields of life, teaching is also fast advancing. Today the values and attitudes have changed and the teachers have accepted the great challenge. In the face of innumerable problems created for them, they are trying their best and are advancing, adapting themselves to the new situations and changes and have not failed in their duty. In this connection we should also remember that there are some teachers who work without any high motive or ideal but merely to earn their living. The recruitment of incompetent persons to the teaching profession on the basis of discrimination is the very



negation of democratic principles and the greatest disservice to the budding citizens who have a right to expect the most efficient and helpful instruction at the hands of capable and talented teachers. The profession should not become dense with unsuitable members who get entry into it on considerations other than merit.

### **New Demands on the Role of the Teachers**

The role of the present day teacher has become very challenging, complex and multifaceted on account of the explosion of knowledge and radical changes occurring in the content areas of all disciplines; new concepts like individualised instruction, micro-teaching, programmed learning, teaching machines, team teaching, use of the mass media; heterogeneous socio-economic status groups of students and the explosion of expectations. In addition to these new demands in the role of teachers, their role is also changing in that authoritative delivery of knowledge is being supplemented by spending more time diagnosing the learners' needs, motivating them and encouraging their study and evaluating the knowledge learnt.

The teachers today can no longer feel as magicians or jugglers working all by themselves dominating the classroom situation. In other words, their role today is no longer of military sergeant or can afford to use an authoritarian force but have to guide and inspire the students and act as a partner in the teaching-learning process providing purposeful activities through self-study, observation, using various techniques of teaching and evaluation of the pupils' performance.

### **Qualities of an Effective Teacher**

Merely choosing a profession and undergoing the necessary training does not make an individual an effective teacher. Certain desirable personal qualities combined with professional competence of a teacher make one an effective and successful teacher.

The teacher spends most of the day in close association with the students and as a result his basic attitudes and actions, his tastes and mannerisms have great influence on them. The teacher creates the emotional climate in the classroom just by being friendly or unfriendly, tolerant or over critical, generous or severe, calm or nervous. The personality of the teacher is important outside as well as inside the classroom. The teacher's ability to plan and work with equals, as well as superiors determines the individual's quality as a good teacher.

The natural impulses, urges and drives in students have to be refined, modified, properly developed and

directed in desirable channels so that the lamp of humanity continues to burn. The will or conscience of the students must be developed. In the words of Butler "education has to feed the conscience by nurturing it in the desired direction". The primary aim of all educational efforts, according to T.P. Nunn, should be "to help boys and girls to achieve the highest degree of individual development to which they are capable of". It implies that it is the responsibility of the teachers to develop the physical, mental, social, emotional, intellectual and aesthetic aspects, that is, the total personality of the students. In the words of Vivekananda "it is man-making education, all-round that we want." The responsibility of the teacher is to see that the potentialities within the student are properly developed so that they become creative and progressive. Their minds have to be constantly bombarded with new ideas and new concepts.

### **Most Desired Personal Qualities in Teachers**

The traits that a teacher should possess are scholarship, sense of humour, cooperation, spirit of service, dependability of character, impressive appearance, emotional stability, leadership, open mindedness, rationalism, determination, impartiality, sobriety and self esteem. In addition to these traits, the teacher should also possess an accurate perception of reality, an openness to new experiences, ideas and information, ability to develop harmonious relations, ethical behaviour based on moral principles and capacity to work hard. Some other personal qualities which are helpful for the teacher to play his role effectively are the ability to communicate, understand and to relate, patience, ability to be firm and fair, friendliness, dedication to teaching profession and the ability to inspire and motivate the students.

### **Need for Professional Growth/Competence**

Mere holding of degrees does not make any one a good teacher. Even the old training methods and experiences are inadequate as guides to enable us to do justice to the present requirements. In every aspect of life, more of reeducation and retraining is demanded. With the increasing complexity of problems, expectations from the teacher are also increasing.

First, teachers at all levels should acquire professional competence from advanced study of the subjects they teach by utilising the opportunity for inservice education. More knowledge about his field of learning makes a teacher confident and enthusiastic about his specific subject. Facts, ideas and inspirations flow from a mind that is full. Secondly, professional competence is acquired by employing effective instructional



programmes involving frequency, intensity and variety. Our educational system is structured in such a way that instruction occurs in groups. Group instruction implies that organisation is necessary to establish routine procedures for accomplishing every day tasks. Team learning, role playing, brain storming and case studies are some of the methods that have been found effective in group learning. Thirdly, understanding the nature of the group of students by looking into their social, economic, demographic and other backgrounds and taking into consideration the religious and political influence on them and also knowledge about the motives of the students' actions and the social adjustment process that takes place within them would help the teachers to offer appropriate counselling and guidance which in turn would promote their professional competence.

Does the teacher get special rewards for being an effective teacher? Does not a teacher who is not effective get as much pay as a good one and some times even more? Is it worthwhile for a teacher to try to grow personally and professionally? These are questions which bother many sincere and honest teachers. Fortunately, there are other rewards than financial which motivate a teacher to do as well as he possibly can. The esteem of his colleagues and the reputation of being a good teacher, the friendship and appreciation of the students and the special reward that the teacher receives is the satisfaction, the feeling of self respect that comes from having developed to a high level both personally and professionally, such development, indeed is one of any well minded person's highest ideals.

### **Living and Working Conditions of Teachers**

The National Policy on Education (1986) places complete trust in the teaching community. It calls for a substantial improvement in the conditions of work and the quality of teachers' education. The policy also emphasises the teachers' accountability to the pupils, their parents, the community and their profession. We cannot blame the central and state governments because they have already taken measures to improve the living and working conditions of the teachers. Pay and allowances to teachers at all levels which are in keeping with their educational qualifications, professional responsibilities are provided. The anomaly of providing lower scales of pay to some categories of teachers will also be done away with. In addition to attractive salaries, retirement benefits, medical care, housing facilities, study leave, special provisions for women teachers, uniformity of service conditions, teachers welfare fund are some of the other positive steps that help improve working conditions of teachers at all levels.

### **Need for Continuing Education of Teachers**

As harbingers of social progress, teachers should ensure against obsolescence and continue to learn. They must be conversant with developing knowledge in different fields of education by taking full advantage of summer schools, short-term courses, seminars, workshops and conferences organised from time to time. They need to continue their learning activities in order to do effective and useful work to the student community over a period of time. Maintenance of a small professional library for ready reference and readings adds to the status of the profession. As the teachers gain experience in their fields, they should cultivate the habit of writing useful articles and contribute to professional journals. Within their financial resources, they should purchase and read a few of the professional journals which will enlighten them.

Their professional work must extend to all the twelve months of the year, with holidays being utilised usefully for additional educational programmes like research work, seminars, workshops, training courses and other activities relating to professional development. The in-service programmes have to be sponsored to keep the teachers up-to-date with the latest educational ideas and trends. The teacher has to learn and gather knowledge even more like a student of studious habits so that his pupils may take the cue from him.

### **Service Motive — The Hall-mark of Teachers' Profession**

Though teachers enter the teaching profession for the sake of livelihood like any other professionals, they should not forget that the measure of their success is the service they preform and not the gains they amass. They should also remember, as professional workers, they are not free to pursue only their own monetary interests. A good criterion for a profession is an inbuilt desire for and capacity of performing public service. Teachers should gain public sympathy by selfless service to the student community and devoting their full time for the job. They have to maintain a positive attitude to teach-

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### **To Our Readers**

Knowledgeable and perceptive as they are, our contributors must not necessarily be allowed to have the last word. It is for you, the readers, to join issues with them. Our columns are as much open to you as to our contributors. Your communications should, however, be brief and to the point.

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ing and render extra services to the pupils to the best of their ability, instead of maintaining a purely official attitude during certain fixed hours of work. They must offer pupils better educational programmes to meet their individual needs and extra guidance. Thus, teachers have to impress the society with importance and dignity of their work by their sincere desire for performing dedicated service to the community.

### Code of Ethics for Teachers

Every teacher must maintain a noble code of ethics in his professional work and conform to high standards of professional life. His responsibility to each student shall take precedence over all other professional responsibilities. He shall seek to establish and maintain such relationship between home and school as will contribute to the development of each student. He has to maintain the standards of professional conduct and display positive attitudes towards his fellow teachers which create mutual respect. He has to assert his personal, professional and civil rights and support his colleagues in defending his rights. He has to act within the community in a manner which enhances the prestige of his profession.

### Maintaining Professional Status

Teachers should never try to belittle their status. Further, they should feel proud of their profession and have immense faith in the greatness of their work and worth because they are the builders and architects of the future society. As teachers have this mission to achieve, faith and confidence in the status of their professional work will give them dynamic power to overcome any kind of depression or defeatism. Status will have to be earned by the teacher as by any other professional worker. The closer the teacher is able to link himself and his vocation with the mission of serving the nation, the more relevant he will become and the more revered by students, parents and society. The road to professional status is a hard one and has to be traversed inch by inch by hard work, united action and noble qualities of head and heart. A teacher must walk, act, talk and feel like a professional, if he wants society to recognise him as a professional and deal with him as a professional.

### Politics and Teachers

It is also necessary that teachers should not get involved in murky politics which vitiate the atmosphere of the centres of learning and reduce them to cockpits of controversy. The teacher's time and energy deserve to be expended on activities which are instructive with constructive idealism. A teacher, true to his salt and not fanatically wedded to any partisan ideology, is a patriot

par excellence, inspired by the highest national ideals and capable of fostering love of progress and peace.

### Conclusion

The teacher's awareness towards his changing role and responsibility in democratic system of education is very crucial. He has to act as friend, philosopher and guide of the students and help them to march forward to establish a new social structure. For teaching the students effectively, the teacher has to continuously learn. It is rightly said about a teacher, "He who learns from one who is himself occupied in learning drinks the fresh water of the running stream". In the words of Rabindranath Tagore, "A teacher can never truly teach unless he is still learning himself. A lamp can never light another lamp unless it continues to burn its own flame." The teacher has to make use of sophisticated educational methods and techniques to raise the standard of education. Teachers at all stages are expected to undertake and promote research, experimentation and innovation. They also have an indispensable role in extension and social service. They have to participate in the management of a variety of services and activities which educational institutions undertake to implement their programme. The time has come for recognising the need to provide dedicated and talented teachers with imagination and vision who are chiefly responsible for the success of any educational endeavour.

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# Need of Professionalism in Teachers

S.D. Singh\*

Those of us, who have the benefit of some training, scientific, technical etc. have a greater responsibility towards their profession than others who have had no such training. After all, this is a scientific, industrial and technological age and we should utilize the available opportunities. We have to give back to our country, what we have received from it, in the shape of training and education and other things, so that the heavy debt that we carry is paid back to our people.

A-1 persons are yet a rare commodity in India. Let us do a little introspection as teacher educators and ask why it is so.

There are various factors which keep professionalism among teachers, engineers and doctors. If those factors are neglected, then professionalism as well as normal work may be affected adversely.

It is a sad commentary that the spirit of professionalism either in technical or non-technical field of work is gradually disappearing in our country, more specially in our teaching profession. Consequently, our education not only in quality sense but education in every direction has been badly affected. In comparison with other developed countries, the general standard of our education is very low. After independence, in spite of various commissions and education policies, our expectations for improving education have not been fulfilled. There may be a number of factors which are responsible for our inadequate system of education but lack of professionalism is also one of the important factors.

In recent times an anti-professional environment has emerged in our schools and colleges. As a result there-of the student community is at a real loss. There are many factors which contribute to the lack of professionalism in teachers. Such factors may be rooted either in the family and or in the social environment, but to my mind factors as given below are more important for this sorry state of affairs. These factors are :

1. Lack of commitment towards work,
2. Lack of goal,
3. Lack of desire to develop academic richness,
4. Lack of identification with institution,
5. Lack of love for the students, and
6. Lack of desire to become a good teacher.

\*Principal, Kishore Raman Teachers Training College, Mathura (U.P.)-281 001.

The factors which have been identified here above are quite self explanatory.

A few more points which can help us develop professionalism in ourselves may be listed as follows :

## 1. Self-Introspection

In the real sense, professional development of an individual depends to a great extent on his self-introspection about work.

In my opinion, it would rather be impossible for anyone to grow in his field unless he is aware of the effectiveness of his work as well as of the qualities that he possesses. Therefore, self-introspection is the first step in the direction of the growth of professionalism.

## 2. Professionalism is a self directed process

Circumstances as they are, teachers may experience shortage of time for self development either for their teaching or knowing what is happening around. But I think that if teachers are given encouragement, they are entirely capable of identifying directions for self improvement and carrying out plans to improve their effectiveness. Therefore, teachers need to be encouraged to seek directions for themselves so that they may develop decision-making qualities as well as courage in them.

## 3. Restoration of Confidence

Professionalism and confidence go hand in hand. In order to boost self-confidence and self direction, team-teaching could be of great advantage. The teachers, who are involved in team-teaching, can always be ready to support one another and live comfortably. If their collaboration occurs within the framework of mutual respect, acceptance and help, they would not only develop self-confidence but also be able to determine self-direction.

It must be very clear to our educationists and educational planners that without restoring professionalism in teachers, their efforts towards educational growth will go waste. If teachers are not professionals and not devoted to their duty, quality education will surely suffer.

To sum up, in words of Dr. Radhakrishnan — "All of us are capable of achieving the highest and the best in us. The light within is given to every man in the world. There is the fragment of seed of the divine dwelling in the heart, which is capable of regenerating the whole individual. We must seek it within ourselves each day for renewed strength and vigour".



# EVALUATION OF TEACHERS BY STUDENTS

Srinivasa Narayanaswamy\*

The two major partners of educational process are the teacher and the learner. Presently, in our system, there is examination for the learners only by the teachers and not vice versa, for we feel that there is no need for such an evaluation of the teacher by the taught. This is not fair. At lower levels of teaching-learning this may not sound good. But at higher levels, this opportunity of student assessing the teacher must be there. As an aware consumer, the higher level learner has a right to assess the qualities/capabilities of the substance he receives. If it is not already there, it must be given to him.

However, divergent views have been expressed on this by educationists themselves and other experts. UGC conducted a few workshops and came out with the suggestion that "the process of assessment of students should be continuous and the students in turn may also anonymously conduct evaluation of the teachers with a view to assessing the efficiency of teachers in the teaching processes. Such a feedback mechanism is necessary to identify weaknesses and deficiencies in instruction so that continuous improvement could be effected".

Students are the best judges of their teachers' ability. Teacher assessment by the student is neither fancy nor an ideal concept, but one that is highly realistic. In every classroom this goes on while a teacher is engaged in teaching. Any teacher would strive to derive the admiration, regard and affection of the student which is the result of an informal assessment of the teacher by the student. Most of the teachers are subtly inspired by it.

Presently there is no formal method of assessing the work of a teacher except for the degree/diploma/certificate he possesses. To put it in another way, teaching is one profession that does not require a licence. And especially those at the tertiary level do not have even, any pre-professional training. They are taken to the task merely on the possession of their degrees.

Generally, teachers may not like to be evaluated by their students. But evaluation of teachers by students is not only desirable but also essential for the development of higher education. This will make teachers more responsible towards their duties. There will be a healthier dialogue and closer contact between the teachers and the taught which is all for the good of the concerned parties. It will help, for those who are good will feel

encouraged that they have been judged rightly. Others will try to improve themselves.

This is not to say that present day teachers lack the responsibility to do their job. By and large, this may not be applicable to all teachers. Quite a large percentage of teachers do take their work very seriously and try to do to the best of their abilities. But at the same time it is not to be denied that there are teachers who are not worth their salt.

No doubt, the opinion of the students should be taken into consideration while assessing the performance of a teacher but in any case it should not be the last or the only word to decide the merit of the teacher. If this is elevated into an administrative weapon by which the merit of a teacher is solely or partly adjudged, it may prove highly mischievous. Students can be easily swayed by political and social pressures and assessment by such a class may lead to even victimisation of teachers. A teacher may be liked or disliked for many other reasons but it will be disastrous to make students arbiter of the professional destiny of teachers. This may develop a sense of "insecurity" among the teachers. It may even put a premium on the type of teachers who indulge in politicking among students or fawn upon them.

Hence, the result of the evaluation of teachers by students could be one of the factors in deciding the worth of teachers and not the only factor in doing so. Its scope and value should be restricted to "evaluation of teacher's competence to put across or rather to communicate to a level which is received properly by the students".

All this should be done in a subtle way and not in a manner which will run down the teachers. This could be done by issuing carefully planned questionnaires to the students.

To start with, this could be experimented with post-graduate and research students for they are more mature and responsible. Autonomous colleges / universities could be trend-setters in this regard. The assessment report should be kept confidential. The weaknesses of the teachers should be brought to their attention for their improvement and not for victimisation. The opinion of a majority of students should be considered and not of a small group of students.

This is in vogue in almost all of the developed countries for the overall betterment of higher education.

Will our UGC give a direction in this regard?

\*Faculty of History, Rajah Serfoji Govt. College,  
Thanjavur-613 005.



# Reorienting Teacher Education in India

M.S. Bawa\*

## Introduction

Teachers occupy unchallengeable position in the educational process. They play a vital role in the all-round development of the personality of children by exercising personal influence. The knowledge, skills, the ability to apply science and technology in solving educational problems, professional competence and attitudes make substantial difference to the quality of education provided by them. Teacher education is, therefore, an important input in the professional preparation and growth of competent teachers.

In India teacher education will assume greater importance in the coming years. This observation is supported by two factors : Firstly, teacher educators will be called upon to train larger number of teachers than ever before for meeting increased demand for various categories of teachers emanating from the policy of the government to provide universal free and compulsory elementary education as well as highly subsidised secondary and senior secondary education to Indian citizens. Secondly, the teacher education sector will be under considerable pressure to provide teachers who are capable of imparting quality education. The demand for quality education as also for teachers providing it increases with the economic development of the country. This in turn calls for improvement in structure and organisation of teacher education, building up of infrastructural facilities in teacher training institutes and reorientation of their education and training programmes. Thus in the following years, the teacher training institutions in India will have not only to train adequate number of teachers to meet the ever-growing demand but also make available better quality teachers.

Besides pre-service education and training of teachers, inservice education has also become very important. This has been necessitated by knowledge explosion which requires keeping teachers abreast of new developments both in their subject specific area and methodologies of teaching.

## Present Status and Problems

At present there are about 1200 institutions for imparting training to elementary school teachers and

*\*Reader in Education, Department of Education,  
University of Delhi, Delhi - 110 007.*

about 596 colleges of education including university education departments for preparing secondary teachers. The quality of education and training provided in most of these institutes is far from satisfactory. Programme of Action (POA)-1986 states: "Most of these institutes do not provide quality education. They lack infrastructural facilities and their curricula remain unrevised for years, reading lists become out of date and instructional procedures followed by teachers are traditional". As regards inservice education, it has been provided to teachers and educational administrators by the National Council for Educational Research and Training (NCERT) and the National Institute for Educational Planning and Administration (NIEPA) at the central level, by the State Institutes of Education (SIEs) at the State level, and also by Extension Services of the Departments of Education or Teacher Training Colleges. The role of the latter has, however, been diminishing in the last two decades and now it has become almost non-existent.

Whatsoever the standard of education being provided in colleges of education, it is being threatened by unplanned growth of B.Ed. correspondence institutions. Formerly B.Ed. correspondence courses were meant for clearing backlog of untrained working teachers who possessed some years of experience of teaching. Unfortunately now some universities like M.D. University, Rohtak have thrown their course open to freshers too. The number of students being admitted to such courses is mind boggling. This has resulted in dilution of standards in teacher education.

## Structural Changes in Teacher Education

To reorient teacher education for meeting the challenges of the 21st century, National Policy on Education (NPE) (1986) recommended that National Council for Teacher Education (NCTE) which came into existence in 1973 be conferred autonomous and statutory status. Its main functions are :

i) accreditation/disaccreditation of institutions of teacher education; (ii) laying down of standards and norms of teacher education; (iii) development of guidelines for curricula and methods of teacher education; (iv) other functions like determination of duration of various courses or place of correspondence education in teacher education etc.



## Teacher Education at Elementary Level

For raising the quality and standard of pre-service education of teachers and other personnel to be absorbed in formal and non-formal education upto the elementary level, the NPE-1986 proposed that selected teacher training institutes be developed as District Institutes of Education and Training (DIETs). One such institute is to be established in each district of India. Besides providing pre-service education, these institutes will also provide in-service education to teachers, organise orientation courses for community leaders and functionaries of voluntary agencies. Moreover, these institutes will function as academic and technical wings of District Board of Education (DBE). The faculty of each DIET will consist of members having specialisation in different subject areas. So far 257 DIETs have been established.

DIETs are under the control of State Council of Educational Research and Training (SCERT)/State Institutes of Education (SIEs). Besides it has linkages with the state level organisations like the Directorate of Adult/Non-formal Education, State Resource Centre (SRC), State Institute of Educational Planning and Administration and State Institute of Educational Technology (SIET). Each DIET has a separate department for Pre-service Teacher Education, In-service Programmes and Extension Services, Resource Centres for Non-Formal Education (NFE) and Adult Education (AE), Planning and Management, Work and Education, Educational Technology, Curriculum & Evaluation, and Administration.

Apart from DIETs, POA (1986) has proposed that some colleges of teacher education should be developed as comprehensive institutions for organising programmes for primary teacher education and possibly also, 4 years integrated courses after higher secondary stage, in addition to existing B.Ed. and M.Ed. courses. These comprehensive institutions will also be provided facilities for undertaking research and for supplementing the efforts of SCERTs. Arguments that support the setting-up of comprehensive colleges are that these promote interaction between teacher educators teaching primary and secondary trainee teachers leading to exchange of views and sharing of experiences. Moreover primary trainee-teachers when taught by seniormost staff of the faculty would get the benefit of their experience and specialised expertise. This would rouse their interest and enthusiasm for the subject which they can keep alive even after the completion of their studies.

According to POA (1986), the major responsibility

for providing pre-service education to secondary school teachers rests with the colleges of teacher education affiliated to the universities and departments of education. To revitalise and strengthen secondary school teacher education, it has suggested the following measures:

1. The university in cooperation with NCTE should exercise control over various academic aspects of secondary school teacher education for ensuring quality.
2. Some of the colleges and departments of teacher education should be given autonomous status for promoting innovations and experimentation.
3. Some teacher education institutes should be upgraded into Institutes of Advanced Studies in Education (IASE) alongwith some others into Colleges of Teacher Education (CTE). Upgradation of selected teacher education institutes is to be brought about through a centrally sponsored scheme of "Strengthening and Re-organisation of Teacher Education". It is proposed to select 250 Secondary Teacher Education Institutes for upgradation. Out of these one fifth, that is, about 50, institutes are to be upgraded into IASEs while the remaining 200 to CTEs.

## In-Service Education of Secondary School Teachers

POA(1986) rightly observes that the responsibility of providing in-service education to secondary school teachers is that of the SCERTs. These would continue to plan, monitor and evaluate the in-service educational programmes of teachers at all levels.

POA(1986) is realistic enough to admit that it won't be possible to provide in-service education through face to face modality as the number of teachers involved is very large. To overcome this difficulty it is proposed to lay emphasis on production of learning material in media other than print. These materials will be produced by DIETs, SCERTs, Comprehensive Colleges and IASEs which will be provided production facilities. Materials so produced will be utilised for imparting in-service education to teachers through AIR, Doordarshan, and other agencies engaged in distance teaching such as Media Resource Centres.

## Teacher Training in Higher Education

Until recently, there were no formal institutions in the university sector for providing in-service education and training to college/university teachers. It was mostly provided to them through Summer Institutes organised by universities with the financial support of



UGC. The number of teachers covered was very small and it depended upon the amount of finance earmarked by the UGC for this purpose. The need for providing in-service education to a larger number of teachers every year has emerged as an urgent need due to a number of factors :

Firstly, with the phenomenal expansion of general education since independence, there has been an enormous increase in the number of teachers. To ensure availability of quality education to all the students throughout India, it was deemed necessary to provide quality in-service education to teachers.

Secondly, there has been a knowledge explosion so much so that it is doubling itself in about six years. The teachers need to refresh their knowledge continuously in order to ward off academic obsolescence.

Lastly, accelerated fast development in educational technology has affected almost all the branches of education : curriculum development, instructional material development, means and methods of communication of knowledge. These developments too necessitated in-service education and training of teachers in new technologies.

Consequent to NPE(1986) the UGC has been establishing Academic Staff Colleges (ASCs) in many universities for providing in-service education to college/university teachers. As of now, there are 48 Academic Staff Colleges in India. Many more such colleges need to be established in near future. The objectives of these colleges relate to providing of refresher courses and orientation programmes for university teachers who have been in service for the last five years and eight years respectively. For realising these objectives, ASCs organise orientation courses, subject oriented refresher courses and special courses covering inter-disciplinary areas. There is a move now towards starting of diploma and M.Phil courses in ASCs. Some universities (e.g. the University of Delhi) have established Centres for Professional Development in Higher Education (CPDHEs). The objectives of CPDHEs are the same as those of ASCs; the two however differ in their administrative set-ups. Whereas the CPDHEs have been set up under the existing ordinances of the universities, the ASCs have been established as separate entities within the framework of universities under a centrally sponsored scheme. At present the ASCs are demanding grant of autonomous status for improving their efficiency. Again CPDHEs do not have permanent staff for organisation and administration of educational programmes for teachers. For organisation of these programmes, teachers of university departments/col-

leges have to take initiative. While CPDHEs draw resource persons from university departments/colleges for their programmes, the Academic Staff Colleges, on the other hand, mostly draw them from other universities and institutions.

### Critical Analysis

In the wake of NPE(1986), structural changes are being effected in the present set up of both pre-service and in-service education. Establishment of DIETs, SCERTs, IASEs, Academic Staff Colleges, etc. augurs well for India. These institutions would serve as catalytic agents for improving quality of teacher education in the coming years. The emphasis laid in NPE (1986) on the production of learning materials other than in print medium by the teacher education institutes and their use for imparting in-service teacher education through distance mode is also to be commended. It is, however, regrettable that the proposal of NPE(1986) regarding grant of statutory status to NCTE has not been implemented so far. This is adversely affecting planned development of teacher education. Unplanned growth of institutes offering B.Ed. correspondence courses and their scant regard for quality education is resulting in turning out poor quality teachers on a mass scale. It is, therefore, imperative that NCTE be accorded statutory status soon so that it may exercise effective control over various aspects of teacher education.

There are certain areas of Teacher Education which haven't received the attention they deserved in NPE(1986) and POA(1986). One such area is the education and training of teachers of vocational stream. No mention has been made in NPE(1986) for setting up of separate institutes nor have provisions been made for creation of infra-structural facilities in the existing teacher education institutions for their education and training. Another important area that hasn't received attention is establishing specialised teacher training institutes for education and training of teachers needed for handicapped students viz., the blind, the deaf, the physically handicapped or underdeveloped, the slow learners, the mentally retarded etc.

In the area of in-service education of teachers, the NPE(1986) and POA(1986) have laid stress on creation of institutional facilities and on making attendance of in-service courses obligatory. It has, however, not taken into consideration motivational factors that impel teachers to acquire new knowledge and skills for professional growth on their own. Some of the sources of motivation that have been identified so far are shame culture/guilt culture, cognitive and affective dissonance



given by Festinger's Dissonance theory etc. There is an urgent need to identify both extrinsic and intrinsic factors of motivation and formulate policy measures to harness them.

Another important problem that hasn't received due attention so far relates to transfer of technology in education. While attending in-service courses, teachers learn about new methods and techniques but after going back to their respective institutes they fail to practice them. It is imperative that Teacher Training Institutes should direct research efforts to remove this lacuna.

NPE (1986) hasn't taken cognizance of the existence of unfavourable ethos prevailing in educational institutes which prevents experimentation, curricular reforms, use of innovative practices etc. by teachers-freshers and the experienced ones. This factor is also responsible for low correlation between increase in educational qualifications of teachers—academic as well as professional—and improvement in the quality of education being imparted by them. Since many factors are responsible for building up of desirable ethos, concerted multidimensional efforts are needed to improve the existing circumstances. It is suggested that DIETs, SCERTs, NCERT, CTEs & IASEs should give priority to this problem in their schemes for effecting improvements in the quality of education being imparted in educational institutes.

As regards the scheme of grant of autonomous status to teacher training colleges, it may be stated that this scheme is still at an experimental stage in India. Against the proposed target of granting autonomous status to 500 colleges in the Seventh Five Year Plan, only 102 colleges were accorded this status. Incidentally none of these colleges was a teacher training institute. The scheme of autonomous colleges is now being evaluated through studies at various levels. The findings of these studies would guide policy makers in deciding future course of action. Whatsoever be the findings of these studies, there is a consensus amongst educationists that the aim of any scheme for effecting improvement in teacher training institutes should be 'Sahodaya'—all rising together. It is feared that by granting autonomous status to a few colleges this aim will not be realised as it would widen the gap between 'autonomous' and 'non-autonomous' institutes. The scheme therefore needs to be modified in such a way that all teacher training institutes strive to achieve the objectives which the scheme of autonomous colleges proposes to realise.

In NPE(1986) greater emphasis has been laid on the

creation of institutional structures which would provide formal in-service education through courses/programmes of shorter duration. This is indeed commendable. However it needs to be supplemented by laying greater emphasis on the creation of new and strengthening of older organisations like Teachers' Centres, Subject Specific Teachers' Associations, Teachers' Media Clubs, Teacher Forums etc. which promote formal and informal contacts amongst teachers. Such organisations provide opportunities to teachers to share amongst themselves their rich and varied experiences, evaluate educational development programmes of the government and render expert advice to various agencies. Thus laying greater emphasis on setting up and strengthening of these organisations will go a long way in the professional development of teachers.

For providing education to university/college teachers ASCs and CPDHEs are being established. Time is now ripe to find out which one of the two is more economical, flexible and useful. The policy of establishing these institutes in future should depend on these findings. Besides, there is a dire need to evaluate the performance of DIETs, SCERTs, and other institutes of teacher education that were established following NPE(1986). Here too setting up of new such institutes or expansion of the existing ones should depend on the findings.

In conclusion, it may be stated that NPE(1986) has dealt with various issues concerning teacher education in India and has suggested policy measures to bring about qualitative improvements. Now that about five years have elapsed since the policy was announced, it requires to be reviewed and modified. Admittedly these five years have not witnessed an all-out earnest effort at policy implementation. This can be largely attributed to frequent changes of central government. Nevertheless it is important that matters which escaped notice when NPE(1986) was being formulated should be considered and our educational policy be suitably modified wherever necessary.

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# What Ails Higher Education in Madhya Pradesh?

A.C. Minocha\*

Perhaps no other component of social services in the country has been put to so frequent evaluation and scrutiny since independence as higher education and no other sector has experienced so slow changes as higher education. The Radhakrishnan Commission, the Kothari Commission, the New Education Policy and the Acharya Ramamurti Committee have made thorough examination of different facets of higher education but their recommendations were implemented in piecemeal manner, with the result that the educational system that we inherited from the British, remains more or less intact except that it has expanded considerably, with deterioration in quality. The system has developed three major weaknesses. It continues to be dominated by value systems adopted during the British regime, laying greater emphasis on narrow individualism, neglect of social good, functioning in isolation from the community. The system maintains double standards, a small minority of institutions at all levels is of good quality but access to them is selective and is mostly availed of by the top social groups. This core of good institutions is surrounded by a large number of institutions where although there is open door access, the standards are poor. This dualism leads to undesirable social segregation and to a perpetuation of inequalitarian trends in society. Thirdly, it is mainly the upper and middle classes who are the beneficiaries of higher education. It is being subsidised to a very large extent. Of the total cost of higher education in the country, only 1.7% is recovered from students. The relatively privileged sections who have access to higher education, virtually get this free.

All this is due to unplanned and haphazard expansion of higher education, inadequate provision of inputs in terms of money, material, talent, and weakening of student motivation and dysfunctionalities created by adverse socio-economic effects. Higher education lacks a purpose, an objective and a strategy. It does not function in a vacuum. It is a part of social milieu and is inextricably linked with the process of development in the country.

The system consists of 191 universities and nearly

*\*Professor of Economics(Retired), Bhopal University, Bhopal and Ex-Director, College Development Council, Bhopal University, 57, Malviya Nagar, Bhopal-462 003.*

7000 colleges with 40 lakh students. Nearly 85% of students at the undergraduate level and 65% at the postgraduate level, are accounted for by the colleges. This fact amply demonstrates that no improvement in higher education is possible unless colleges participate effectively in the programmes of educational reform.

## Scenario of Higher Education in Madhya Pradesh

Some of the problems confronting higher education in the state are such as are common to the whole country but there are some problems which are peculiar to the state which demand attention both at the national and state levels.

There has been phenomenal expansion of higher education in the state, particularly after 1956. The process of expansion has been much faster in the sixth plan when 106 new colleges were opened and 64 private colleges were taken over by the government. Though the VII plan of the state had stated that no new college would be opened during the currency of the plan, a large number of colleges were opened in the plan period. The number of colleges has gone up from 360 in 1980-81 to 500 at present, of which a little more than 400 belong to the state government. The sub-standard nature of majority of the colleges is evident from the fact that 280 out of 500 colleges are not registered with the University Grants Commission(UGC) under section 2(f) or 12(B) of the UGC Act and are, therefore, not eligible for UGC assistance, being nonviable in nature. Nearly 180 colleges do not have buildings of their own. The VII Plan document admits that there was shortage of 600 teachers in the colleges as per norms of the University and the UGC. Out of 410 posts of principals of government colleges, 204 posts were lying vacant. These sub-standard colleges have come up due to the laxity of the universities and the M.P. Uchcha Shiksha Anudan Ayog in enforcing conditions of affiliation. The government itself does not adhere to the conditions of affiliation when it floats a new college. Sometimes the University and the Ayog are just informed after the college is floated by the state government.

## The Institutional Framework

The institutional framework within which colleges function is provided by the state government, the universities, the UGC and the Ayog. Through a number of



ordinances and statutes the universities are expected to regulate the functioning of colleges, provide a college code for administering private colleges, conduct examinations, inspect colleges, enforce standards of education and prescribe courses of studies and promote teaching and research. The improvement of standards of education in colleges largely depends upon the health of the universities. The weakening of the university system has adversely affected the functioning of the colleges. The universities have lost their credibility because of non-adherence to academic calendar, frequent postponement of examinations, delay caused in the declaration of results and scumming to all sorts of pressures. All the universities in the state are financially crippled due to financial mismanagement and inadequate grants from the state government. The university administration is not responsive to the needs of the teachers and students. Their teaching departments, by and large, are no better than colleges.

#### *The Coordination Committee*

The Coordination Committee, consisting of the vice-chancellors and functionaries of the education and finance departments, presided over by the Chancellor, is expected to coordinate the activities of different universities, improve the institutional framework by making amendments in existing ordinances and statutes and enacting new ones and also to take policy decisions in respect of improvement of higher education and bring about directional changes therein. But this body seldom makes a review of the follow up of its policy decisions. Its academic calendar is honoured more in its breach than its observance. Its meetings are mere rituals without bringing about any transformation of higher education in the state.

#### *The M.P. Uchcha Shiksha Anudan Ayog*

The Ayog was created to serve as the highest policy making body in respect of higher education but virtually it has been reduced to the status of a grant disbursing agency to the universities and private colleges and that too without any plan. It is handicapped in its functioning by inadequacy of finances, lack of autonomy, inadequate expertise and absence of educational planning.

#### *The State Government*

The state government which is responsible for the management of government colleges and overall funding of higher education, does not provide even a modicum of basic amenities in majority of colleges. The policy of adhocism in higher education has resulted in mushrooming of colleges and their subsequent under development. For a poor state like that of M.P. where the level of literacy is very low, higher education seems

to be a luxury. Spread of literacy and improvement of primary and secondary education will pay more dividends than expenditure on higher education. The state can ill afford the luxury of having 9 universities for general education, with no better performance and results.

Higher education in the state is highly subsidised. The recovery rate on higher education was only 1.64% and on technical education only 9.5%. Higher education for girls upto postgraduate level is free. It is desirable to make primary education free for all and also secondary education very cheap. But there is no case for making higher education virtually free for all. Fees should be raised in such a manner that the richest quartile of the population bears 75% of the cost of education, the next richest quartile bears 50% and the one after that 25%. The last of the economically weak quartile need not bear any part of the cost. In this way cost recovery of higher education can augment the outlay on primary education by about 50%.

#### *The UGC and its Programmes of Improvement of Higher Education*

The University Grants Commission (UGC), at the apex of the educational hierarchy, created by the Act of the Parliament is charged with the responsibility of coordination and maintenance of standards of higher education and research. The catalytic role of the UGC is to be supported by the universities and the appropriate bodies to be created at the university and state level, as it is through the university system that the UGC implements its various programmes and policies and channelises most of its funds. If the universities are indifferent, ill-equipped and non-cooperative, no improvement is possible and the UGC cannot achieve its objectives. The UGC expects the universities to cooperate with it in respect of checking the growth of sub-standard colleges, introducing examination reforms, improving course contents and implementing the guidelines in respect of affiliation of colleges. The UGC can simply persuade the universities and provide necessary funds. The major responsibility for improving higher education lies with the state government, the Ayog, the universities and the colleges, though the guidelines and part funding of the programmes will come from the UGC.

The UGC has designed a number of programmes to assist the colleges, some of which are the component parts of new education policy of 1986. The UGC grants are intended to assist the colleges for the purchase of books and journals, equipment for laboratories, construction of buildings, participation of teachers in conferences, faculty improvement, funding of mini research projects, extension programmes, purchase of TV sets and computers. The COSIP and COHSSIP are in-



tended for the improvement of quality of teaching in science, humanities and social sciences. Most of the colleges in the state avail of such schemes of the UGC where assistance is on 100% basis. The schemes for which matching share of the state government is required have not been availed of by most of the colleges, since the state government does not make adequate provision for this item in its budget of the education department.

There seems to be no consistency between the allocation of matching share in the education budget and the requirements of colleges. Our state is not taking maximum advantage of the UGC schemes of assistance to the colleges and the universities because of the reluctance on the part of colleges to prepare sound schemes, indifference of the state government and the Ayog and absence of educational planning.

To assist the colleges in their development programmes and to serve as a guide to the college system, the UGC has made provision for the institution of College Development Councils (CDCs) at the university level. This institution serves as a link between the UGC and the colleges through the university system. All proposals of the colleges for UGC assistance are to be routed through the CDC. The UGC provides financial assistance to the universities for the post of Director CDC. The universities in the state are not much interested in strengthening the CDCs. The right type of infrastructure in terms of office staff, space etc. is not provided to the Director. There is no statutory status to the CDC and its Director. The state government is also indifferent. It does not even nominate any one on the CDC and the recommendations of the CDCs are not given any attention.

The scheme of autonomous colleges is intended to give the colleges and its teachers an opportunity to assume full responsibility and accountability for the academic programmes they provide, for admissions, for assessment of their students. Though a number of colleges in the state have been identified as autonomous colleges but they lack the necessary infrastructure to become autonomous in the real sense of the term.

The UGC assistance cannot be surrogate for the assistance of the Ayog and the state government. The utilisation of the UGC grant depends upon the availability of complementary inputs provided by the state government/Ayog.

#### **The Quality of Teachers**

The policy of the state government in respect of recruitment, promotion and transfer of teaching staff, creation of infrastructure, opening and location of new colleges has greater bearing on the quality of education in the state. Considerable damage has been done to

higher education due to wrong policy of recruitment of teachers in the colleges. A large number of teachers have been appointed since 1976 on adhoc/emergency basis without any test or interview and most of them have been regularised. This policy has resulted in the entry of large number of sub-standard candidates as teachers.

To improve the quality of teachers, the UGC is holding National Education Test (NET) every year to determine the eligibility of candidates for teaching posts in the colleges and university teaching departments. The state government has not adhered to the scheme. Instead, it has instituted its own test through the Public Service Commission. It is not clear whether those who have passed the NET of the UGC would be exempted from the test or not. In the absence any policy, such candidates who have already passed the NET, have to appear in the state PSC test. This seems to be ridiculous.

The UGC has revised the pay scales of teachers of colleges and universities which now compare favourably with all-India services. In the latest scheme of revision of pay scales, there is a provision regarding promotion of teachers with 8 years teaching experience to senior scale and with 16 years experience to selection scale, provided certain conditions are fulfilled. For making assessment of teachers for higher pay scales, the UGC has circulated certain proformas. The state government has diluted this proposal of the UGC and has been promoting teachers only on the basis of their confidential reports. The conditions prescribed by the UGC like participation of a teacher in refresher courses/orientation courses organised by the Academic Staff Colleges, publication of research papers etc. have been ignored. The state is not taking much advantage of the UGC scheme of providing refresher courses/orientation courses in the Academic Staff Colleges for improving their professional competence.

The universities in the state are not implementing conditions of affiliation of colleges and also minimum number of working hours for teachers. It would be interesting to look at the statement of the state government made in the Implementation Report regarding National Policy on Education (Vol. II) :

"There is general shortage of houses. This forces the teachers and other staff to stay at nearby towns from where they commute to their places of work by various means of transport. This results in their almost never reaching the college in time since their arrival and departure is linked with timings of buses and trains. College time tables have to be cast and re-cast to suit their convenience. They cannot be ordered to stay back for important extra-curricular and other academic activities. It is natural that they cannot give their best to the



institution and the students. An atmosphere of general laxity prevails in such colleges which adversely affects discipline. The Principal becomes a helpless spectator in such circumstances." (Page 25)

Under such conditions it becomes difficult to implement the UGC policy in respect of workload of teachers in colleges and other programmes of quality improvement in higher education.

There seems to be no criteria evolved by the state government for location of colleges. Colleges located at tehsil headquarters and below are non-viable. Their location is determined by political expediency. This shows that we lack priorities in education as well as in planning. Sometimes in the middle of the session, without creating basic infrastructure, the state government permits colleges to introduce postgraduate classes. Most of these colleges employ sub-standard teachers on adhoc basis on very low salary. The low literacy ratio in the state does not warrant opening of more colleges. It is a pointer to the need for spreading literacy rather than wasting resources on opening of new colleges or introducing new subjects.

#### What is to be Done ?

The picture of higher education in the state is dismal and therefore, needs immediate and adequate attention to salvage the situation and to tackle the wide spectrum of problems through an articulate, coherent and consistent policy in respect of higher education. The problem, if deferred for the time being, has the tendency to re-appear in more acute form after some time.

There has to be a strong planning cell with adequate skills and expertise at the state headquarters to provide guidelines to the colleges and coordinate their plans, finally to be integrated with the plan of the state government.

No qualitative improvement is possible unless colleges are equipped with basic minimum infrastructure in terms of staff, space, books and journals, laboratory equipment, and student amenities. Top most priority has to be accorded to filling up the infrastructural gaps in terms of conditions of affiliation of the universities and the UGC guidelines. In the next five year plan, the major thrust should be on consolidation and expansion of facilities in existing colleges. Each college should prepare a perspective plan extending over a decade and that plan should identify infrastructural gaps and needs for expansion of facilities, both in physical and financial terms. That perspective plan should indicate priorities. These plans should be examined at the state level and then harmonised and integrated with the plan of higher education department. Thus planning process needs to be decentralised.

The basic deficiencies that need to be rectified are the following :

1. Withdrawal of facility to appear as private candidates upto the postgraduate level. It should be made compulsory for all those who want to appear in any examination either to join a college or enrol himself with the Open University or the Institute of Correspondence courses.

2. Only whole time students should be admitted to postgraduate courses and classes must be held for at least four hours in a day in addition to tutorials and seminars. There can be separate colleges for working men at a few places.

3. Unless there is a minimum of five teachers in a teaching department, postgraduate teaching may not be allowed.

4. The strength of teaching staff in a college is to be determined on the basis of number of students, number of sections, specialisations in different subjects.

5. The staffing pattern in the colleges need to be rationalised and there should be well defined policy regarding posting and transfer of teachers.

6. Procedure laid down by the UGC in respect of recruitment of teachers should be strictly adhered to and the present practice of emergency/adhoc appointments must be discontinued.

7. Promotion of teachers be made strictly in accordance with the UGC scheme.

8. Certain rigid conditions must be satisfied before permission is given to start a college.

9. Minimum infrastructure be created in every college in the next five years.

10. The state government should make adequate provision in its budget for meeting the matching share of the government to the UGC funding of certain schemes.

11. Adequate provision be made in the state budget for creating minimum infrastructure in the colleges.

12. Some of the non-viable colleges be closed.

One fact that needs to be emphasised is that no improvement of higher education is possible unless primary and secondary education is improved. The base of the hierarchy of education function, has to be made stronger, otherwise top is bound to be weak. Even though we have made a case for qualitative improvement of higher education, it cannot be in isolation from the rest of the system of education.

Whereas primary education should be free, secondary education be made cheap, but higher education has to be made costlier. At present higher education is highly subsidised. The beneficiaries of this subsidy, by and large, are the higher income groups. This subsidy needs to be considerably reduced so that more funds are made available for strengthening the primary and secondary education.



## The Crisis of Confidence

Justice Rangnath Mishra, Chief Justice of India, delivered the Convocation Address at the sixty eighth annual convocation of the University of Delhi. In a thought provoking address, he alluded to the 'crisis of confidence — a crisis of trust and goodwill' through which India, nay, the whole mankind was passing. He said, "The crisis of confidence lies at the heart of political instability, economic disaster, industrial disturbances, religious conflict, cultural anarchy, youth unrest and continuous international tension. Disruptive in their fields, it paralyses action to relieve its cause. Let no one claim that he has made these problems obsolete by the unique achievements of his own economic system or social order because nowhere is that true. The crisis of confidence, integrity and fairness involves and affects all mankind." Excerpts

I stand to speak to you at a point of time when we are passing through unprecedented social turmoil and violence. The feudal past of Indian society has collapsed yielding to class and caste alliances. The concept of abiding social good has been brushed aside by personal beliefs and sectarian interests. There has been a systematic erosion of moral and social values without any viable alternative. Mediocrity has side-tracked meritocracy. The euphoria of the freedom movement has evaporated leaving the country in an intellectual wilderness. There is no value base in the educational system. Repetitive experimental interference with the system of education has brought into it indiscipline and taken the vigour out of it. The fallacy to coordinate between educated manpower and the existing or estimated demand for it has led to increasing incidence of unemployment among the educated youth and has led to immense social unrest and disturbance of the stability of the

country. Social planning without planning education has widened the gap.

During the period of freedom struggle which covered about five scores of years a sense of discipline to fight under organised leadership, the alien ruler, had developed. The high spirit of nationalism and an organised base for patriotism had grown everywhere. The people of India had come together irrespective of language and religion. Acts of great sacrifice were frequent. Thousands of young Indians had willingly marched into the arena of struggle. Even fear of death did not deter patriotism to manifest itself. Throughout the period of struggle for freedom people of India had been told that when freedom was won the great legacies, traditions and cultural heritage would be revived and the people of India would be put into the mould of one nation, one country. Bapu had told us that the great power of the people

of India would be projected into life and the Indian villages would start exhibiting the true national culture.

Independence ultimately came to us in 1947. The initial years of free India had great leaders to show us the way. We already had Sri Aurobindo's burning sense of patriotism to glow; Gurudev Rabindra Nath Tagore's aesthetic humanism to share; Bapu's non-violence as was our weapon and Jawaharlal Nehru's Scientific temper to advance. These, however, did not last long. Within two decades great changes overtook us and the national scenario totally changed. We undertook development by planning. Five year Plans, one after the other, followed. Much attention was bestowed and huge expenses were incurred. Development in various fields has no doubt been achieved but we omitted to plan man — the ultimate beneficiary of all the planning.

Education is an instrument of social transformation, first by transforming the individual and then bringing about the generation of a social culture. In ancient India the teacher and the pupil had a very close and cordial relationship; like that of father and son, which had a very great influence in moulding the life of the student. That vital relationship was lost in the modern system of education where there is hardly any mental or spiritual communion between the teacher and the student. Today human relationship in the educational institutions has become mechanical and commercial — the student has a feeling that the teacher has a duty to teach for the fees he pays to the institution



and the teacher likewise is prompted by no other higher motive than repaying the salary that he gets from the institution. Man at once is a product of nature and nurture and perhaps nurturing is more important and it is here that our teachers can work wonders.

In traditional India, we never looked upon the teacher as a social servant. The Guru was entitled to all-round respect and had an acknowledged status in society. There is a saying that Jerusalem was destroyed because the teachers were not respected. How much truth there is in this statement is for all of you to judge. Dr. S. Radhakrishnan once said :

“If you merely become scientifically skilled, do not develop the other dimensions of your soul and do not believe that there is such a thing besides knowledge which you call wisdom, you will become merely a monster instead of becoming a master of life.”

Perhaps that has happened to us. Life is the movement of the will force and the more it is educated the better is the quality of it. Our impulses and our instincts do not allow the expression of the final will; the will is always purposive; there are moments of our lives when we should seek the movement of the cosmic will in the formation of our destiny.

We are passing through very challenging times. Look at the 19th century. That was a period of humiliation and oppression for us in India under the British Rule. A time which was otherwise grim turned out to be a remarkable period. A galaxy of great sons India produced during that period — in scholarship, law, literature, social sciences and spirituality — Raja Ram

Mohun Roy, Ishwar Chandra Vidyasagar, Bankim Chandra Chatterjee, Sarat Chandra, Munshi Prem Chand, Bal Gangadhar Tilak, Gopal Krishna Gokhale, Dr. C.V. Raman and Sri Ramkrishna Paramhansa. The foreign master has gone. Independence has been won but we are again passing through a crisis.

Perhaps the present crisis is worse than the earlier one. This is the crisis of confidence — a crisis of trust and good-will. It has been said that independence is easier to win than to maintain. We have now been made to face challenges to our freedom. What is said of India today is perhaps more or less true of mankind everywhere. There is now throughout the world a pervasive scepticism of the capacity of the law, government, society and indeed man to cope with the complex challenges of so headstrong an age. Throughout the world there is an acute crisis of confidence, integrity and fairness. This crisis of confidence lies at the heart of political instability, economic disaster, industrial disturbances, religious conflict, cultural anarchy, youth unrest and continuous international tension. Disruptive in their fields, it paralyses action to relieve its cause. Let no one claim that he has made these problems obsolete by the unique achievements of his own economic system or social order because nowhere is that true. The crisis of confidence, integrity and fairness involves and affects all mankind.

Real education has to lead to full development of the personality of every individual and failure to deliver this end-product should have been sufficient to put us on the guard that the prevailing process of education is not the proper one. We have been following the educational pattern of 10 + 2 + 3. This means a

period of minimum 15 years is spent in educational institutions. If education begins at the average age of five, by the time the process is complete 20 years of life which can be calculated as one-third of average life span is over. Even though such a precious part of human life is spent the purpose is not achieved. What is earned as an insignia of degree carries no value. Those who top the list in the university examinations are not accepted by Government, their undertakings and even the universities who grant the degrees. When the question of recruitment to employment arises, a further selection examination is provided for. The devaluation of the degree and the parchment granted in evidence thereof is clearly indicative of the fact that the educational process is not in proper gear. Those who study and those who teach are generally responsible for this position. This is sufficient notice for introspection. Equally, this is a call for an overhauling of the system.

There is perhaps general consensus that the higher educational system in our country should be more qualitative than quantitative. Ours is not like the education in some countries where a job awaits every person finishing his education according to his qualification and aptitude. Therefore, there is a growing sense of frustration among the educated youth. Most of them have been feeling that they have been cheated by society and the unwritten promise which the society held out to them when they joined the educational process is not being fulfilled. Changed requirements of the nation, altered social problems and the new dimension which has developed call for a radical change; yet our process more or less has remained unchanged and what we have done is essentially a patch-



work.

Article 45 of the Constitution provides :

“The State shall endeavour to provide within a period of ten years from the commencement of this Constitution for free compulsory education for all children until they complete the age of fourteen years.”

Our Constitution fathers had made several time-bound provisions in the Constitution — principle of reservation or our official language. Nothing discernible within the time set was done and we have kept on changing the period originally indicated in Article 334; while the period indicated in Article 45 or 343 has not been changed, no positive headway has been made. Lack of commitment and the development of the appropriate national work culture are the reasons for this deficiency. Though forty years have rolled by since the Constitution came into force, yet compulsory education until the age of 14 years has remained a dream. Recently there was a declaration that Kerala State has achieved hundred percent literacy. As you are aware, that is only on the basis of the capacity to read and write and not proficiency in the three Rs.

Our manpower is of superb quality. Indians outside India shine like bright stars. We have adequate manpower in this country. Nature has been bountiful. India is usually described as a small continent. We have the great storehouse of human knowledge. People in this country had reached heights of achievement in different walks of life which mankind has yet to reach elsewhere. The youth of India is large in number. Its size is around thirty crores, about 1/3rd of the total population. No other country in the world can

have the pride of that strength. What we lack is discipline, dedication and determination. We want character, commitment and coordination. If these are put into life's process a new spirit is bound to be generated and it is this spirit that shall bring about elevation in us and ultimately lead to a better India of tomorrow.

Convocations are not a novel phenomena of modern times. Even in the Gurukula at the end of a teaching period, and on the eve of the final departure of the students, the Guru was holding a ceremony akin to what you have here today. He had no parchment to distribute. He gave his advice and showered his blessings.

Years of living together, the direct interaction, personal care and attention and an indepth conduct assessment used to bring about a mould from out of which no student could get away from the rest of the life. Remember Aruni — he was sent out of the Gurukula once the teacher was satisfied that he had learnt the lessons of life well.

I would now congratulate the graduates of the year and the recipients of the various other degrees. The examination which you have passed is very different from life's examination which awaits you. There are many with good records in Universities who get stuck up in the march of life. Therefore, those of you who have missed the chance need not despair. Remember Lord Halsbury, Winston Churchill and Oliver Goldsmith who just got through their degree examinations. Halsbury had the unique distinction of having been the Lord Chancellor for long years. He was one of the greatest Judges of the world. It is recorded that he got a fourth class at Oxford. Churchill and Goldsmith

were right at the bottom of the list of successful candidates and for your information the author of the 'Deserted Village' had to be pushed through as his tutor was very attached to him. I know of a Law graduate of the Calcutta University who had been awarded his degree with the following citation :

“Showed brilliant results — has secured record marks in all the subjects and the highest in the total — awarded the Gold Medal for splendid performance.”

He retired as Head Clerk of the Law Department of the State Secretariat.

Let us have realism and candour by all means. Most certainly our obligations for the future call for a large dose of both. The world is much too dangerous for us to live by illusion any longer. The need of the hour is excellence in every field. It is in you the creamy young ones that the nation pins its faith. Rise with determination. Break away the clusters of smallness, shun the vice of caste, creed and religion and join the eternal song of mankind occurring in the Atharva Veda :

“Work for the glory of your country and countrymen speaking different languages;

Give due respect to the faiths and aspirations of the people;

Countless are the reserves of Mother Earth from whom flow the rivers of wealth in hundreds of streams;

Worship Motherland as you worship God;

From time eternal Mother Earth is giving life to her children.....”

May God bless you all and may the summer of your lives be not as oppressive as the sun outside!



## Delhi University to Stress on Tutorials

Delhi University is reported to have taken up the task of revamping the academic system by giving weightage to the tutorial and preceptorial process. It is believed that attendance in tutorials would be made a condition for eligibility to appear for the examinations.

One of the prime tasks being considered is to ensure at least 50 per cent attendance in tutorials and carrying out at least 66 per cent of assignments given as a pre-requisite for appearing in the examinations. Secondly, the number of tutorials per paper should not be less than 20 per cent of the number of lectures, while that of preceptorials not less than ten per cent.

The existing rules provide for a specific number of lectures and tutorials or preceptorials per paper in a subject. Tutorials and lectures are weekly, while preceptorials, except in English, are fortnightly. The teacher requirement of a department is determined by the workload, though the approved number of teachers in a college is determined by the overall student-teacher ratio.

Consequently, there is no paucity of teaching resource for tutorials or preceptorials. In case of post-graduate departments, the number of teachers is determined by other criteria, and here too paucity of teachers is no constraint.

The Academic Renewal Committee of the University took the stance that for initiating the process of universal implementation of the tutorial system, it is necessary to disseminate the understanding among teachers and students that tutorials

are desirable and unavoidable part of the formal system of instruction. This implies that the teacher has to perceive the necessity and utility of tutorials. Assignments and performance evaluation should be systematically recorded so that the university may, at a later stage, consider putting on record in the mark-sheet, the student's performance report in tutorials, separately from that in the general examination.

### Database Search Facilities at IGNOU

The Indira Gandhi National Open University (IGNOU) has recently acquired CD-ROM (Compact Disc—Read Only Memory) player and CD-ROM databases. With this acquisition the IGNOU Library has become the only Library in India providing database search facilities in the field of distance education to its readers and other research scholars of the country.

The potential of this technology is tremendous. A small, thin CD-ROM disc of 5.25 inches in diameter and 15 gms. in weight can hold data equivalent to a quarter million pages or 1900 standard floppies of information. IGNOU Library subscribes to a few CD-ROM databases, including ERIC, Books in Print and LISA. In a near future, it will be receiving Whitaker's Book Bank, BNB cumulative and Ulrich's Plus Periodical Directory through the British Overseas Development Administration Scheme. The main attraction to the distance educators is the CD-ROM database on distance education provided by the In-

ternational Centre of Distance Learning (ICDL) at Milton Keynes, U.K. It consists of information on distance education literature, distance teaching institutions and courses taught at a distance through these institutions.

The Library and Documentation Division of IGNOU is an apex body of the wide network of the branch libraries at 16 Regional Centres and 171 Study Centres. A comprehensive special collection on Distance Education forms an important part of its holdings. Its activities and services including library catalogue are computerised using UNESCO software, CDS/ISIS-2.3. A recently acquired UNIX-based integrated library software, LIBSYS will be used for further automation of the Library's house-keeping operations. Apart from these, the Library has a well-equipped Reprographic Section having facilities for photocopying, electronic stencil cutting and duplicating, laminating and spiral binding.

### Rajiv Gandhi Institute of Contemporary Studies

The Rajiv Gandhi Foundation recently announced that an institute of excellence, named after Rajiv Gandhi, engaged in teaching and research work would soon be set up to keep the "dreams" of the former Prime Minister alive. The institute will be called the Rajiv Gandhi Institute of Contemporary Studies. It will function as a "think tank" in the field of modernisation and nation building, giving rise to specific policy options and practical programmes in areas which were "at the centre of Rajiv Gandhi's concerns."



According to the Foundation, the areas in which the institute proposes to work include communal harmony and national integration, the elimination of poverty, social reforms, science and technology for development, economic policy, the environment, administrative reform, public affairs and international relations.

Eminent scholars would be appointed to the various divisions of the institute, which would have both students and research scholars. The Foundation also proposed to award scholarships and fellowships named after Rajiv Gandhi.

### Environment Awareness Clubs

The Society for Environmental Education (SEE), a registered non-profit non-governmental organisation, established in Trichy on 5th June 1989 under the patronage of Dr.S.Muthukumaran, Vice-Chancellor of the Bharathidasan University, has decided to create a minimum of 50 Environmental Awareness Clubs(EACs) in selected schools and colleges with a view to generate environmental consciousness among the students and in turn, among the general public.

The aims and objectives of the clubs are : (i) to serve as a forum for students interested in preserving environment; (ii) to undertake environmental reconstruction work in the neighbourhood; (iii) to educate the local public in preservation and conservation of Nature and its essential humanity; (iv) to propagate key scientific concepts and ideas essential to basic understanding of our environment through various means such as radio, TV, newspapers, exhibitions, campaigns, competitions and debates; (v) to arrange awareness programmes periodically and also on environmentally important

days; and (vi) to organise study tours to places of ecological importance.

The functions of the environmental awareness clubs would be on the lines of the activities of the other clubs and associations in educational institutions.

Some of the activities suggested for EACs are : (i) Lectures and group discussions on various environmental issues of local, national, regional and global interest; (ii) Essay, oratorical, drawing and painting competitions on environmental themes; (iii) Environmental film, video and slide shows; (iv) Eco-development and clean-up campaigns; (v) Field visits to environmentally problem areas such as pollution spots and degraded sites; (vi) Study tours to ecologically important places such as zoos, parks, sanctuaries, forests, hills and mountains; (vii) Celebrations marking World Environment Day, Earth Day, World Health Day and Wildlife Week; (viii) Exhibition on environmental matters; (ix) Tree plantation and tree care; (x) Survey and analysis to assess and improve the quality of local environment; and (xi) Rallies and padayatras to draw the attention of the local public on crucial environmental problems.

The educational administrators of schools, colleges and universities in Tamil Nadu have been requested to make use of their good offices for the successful implementation of the scheme. For further details, contact may be established with Dr. S. Srinivasan, Secretary, SEE, A-16, 1st Cross, Thillai Nagar Main Road, Tiruchirapalli-620 018.

### Fiscal Management in India

The Department of Econometrics, University of Madras, recently organised a one-day

workshop on the theme of 'Fiscal Management in India : Issues and Options' in co-operation with Indian Economic Association Trust for Research and Development. The objective of the workshop was to generate serious discussions amidst academics, industrialists and economic administrators on the three crises facing Indian Economy, viz., fiscal deficit, balance of payments, deficit and inflation, so that long-term and short-term solutions may crystallize.

Dr.S.Sathikh, Vice-Chancellor, in his inaugural address, suggested the need for raising capital productivity and reducing the inflation-rate. The noted economist, Dr. Malcolm Adiseshiah, who presided, favoured widening of personal income-tax base and phased reduction of expenditure on defence and subsidies.

The theme papers presented by Dr.Malcolm Adiseshiah and Dr.Pulin Nayak and a background paper presented by Dr.U.Sankar, dealt upon issues like revenue, public expenditure, fiscal deficit and Centre-State relations.

After detailed deliberations the following recommendations were made .

- (i) urgent bringing of fiscal deficit to 8.5% of GDP;
- (ii) cutting down of subsidies and expenditure on defence;
- (iii) containing the inflation rate at 6% by increasing productivity and reducing rate of growth of money supply;
- (iv) a tax-reform resulting in an increase in the share of direct taxes in revenue and phased reduction of excise and customs duties on capital and intermediate goods; and
- (v) measures for improving physical



and financial performances of public enterprises through organizational and price-reforms.

### **Methodology of Women's Education and Development**

A 8-week training course was recently organised by the National Council of Educational Research and Training (NCERT) on the 'Methodology of Women's Education and Development'. Inaugurating the course NCERT Director Dr. K. Gopalan emphasised the need for educational programmes keeping abreast with the changing needs of the society.

The programme was expected to help in developing an understanding of the inter-relationship between education; status of women; education and socialisation of the girl-child; elimination of sexist bias from curriculum and educational programmes; qualitative and quantitative methods in women's education; mobilisation of women and the community; and develop a broad understanding of the problems and issues facing the country.

The programme drew the participants from Women's Cells in the State Directorates of Education, voluntary agencies and State Councils of Educational Research and Training (SCERTs) and State Institutes of Education (SIEs) — including District Institutes of Education and Training (DIETs).

### **Sports Board Meets at Mysore**

The Second Annual General Meeting of the revived Inter-University Sports Board was hosted by the Mysore University on 26th June, 1991. Shri V.R. Mehta, Vice-Chancellor of the Gujarat Ayurved

University and working Chairman of the Inter-University Sports Board presided.

The meeting, inter-alia, approved the new scheme of Zonal Level Camps in important disciplines, namely, Athletics, Hockey (M&W), Volleyball (M&W), Basketball (M&W), Badminton (M&W) Football (M) and Wrestling. If approved by the Govt. of India, the camps will be conducted at the four Regional Centres of the Sports Authority of India (SAI) once a year for a duration of 4 weeks.

The Sports Board also decided to approach the Govt. of India for enhancement of financial assistance towards organizing Inter-University tournaments. This decision was taken in view of enormous escalation in the prices. A revised ceiling of Rs. 2.5 lakhs, against the earlier ceiling of Rs.75,000 has been recommended for Athletics.

In view of the rich cultural heritage of Yoga in the Indian society, it was decided to introduce Inter-University Yoga Competition and the competition was allotted to Haryana Agricultural University, Hisar.

On a proposal from Dr. Y.S. Parmar University of Horticulture & Forestry the Sports Board also decided to request the government to enhance the ceiling towards construction and expansion of infrastructure of sports facilities in the universities located in the hilly areas.

### **Economics of Female Headed Households**

Dr.K.Shanthi, Reader in Econometrics, University of Madras has been awarded a project grant of Rs. 1,65,480/- by the Women and Child Development Department, Government of India,

for conducting a study on 'Economics of Female Headed Households'. The main objectives of the project are: (i) to capture and highlight the conceptual problems involved in the definition and identification of Female Headed households and to evolve a suitable definition based on empirical study; (ii) to analyse survival strategies of such households with special focus on caste, literacy, social class, ownership/accessibility of productive assets, matriarchy/patriarchy, opportunities, (iii) comparison of Female Headed households with male-headed households to see the intensity of advantages/disadvantages; and (iv) to suggest policy measures.

### **Independence Day at Kakatiya Varsity**

'Any amount of technological advancement, howsoever significant it might be, will not yield the desired results if the country's population is not kept under control limiting it to its natural resources,' observed Prof. Jafar Nizam, Vice-Chancellor of the Kakatiya University. He was addressing the staff and the students immediately after unfurling the national flag to mark the independence day celebrations at the Kakatiya University.

Prof. Nizam said that India had made remarkable progress in the fields of science & technology, nuclear science, space science, oceanography etc. However all this progress was coming almost to a nought in the face of unabated population explosion, he felt. Prof. Nizam further said that the country would end up in a catastrophe if the things were allowed to continue like this for another fifty years.

Prof. Nizam called upon the people of all walks of life to sink their differences and rededicate themselves for building up a strong, prosperous and united India.



### Workshop on Rice Milling and Export

Dr. Khem Singh Gill, Vice-Chancellor of the Punjab Agricultural University recently inaugurated a Workshop on "Post Modernization Problems in Rice Milling and Export of Rice". Speaking on the occasion he said that Punjab which produced only 3 lakh tonnes of rice in 1965 now produced 65 lakh tonnes of rice. This tremendous breakthrough achieved during the last 26 years was due to the development of high yielding and export oriented varieties and latest farm technology generated by the University. Dr. Gill said that the rice milling industry in the state had emerged as a major agro-processing industry consisting of 2000 modern rice mills and about 500 rice shellers. He said that this industry had succeeded in generating sizeable employment in the state particularly in the rural and backward areas. He further said that the PAU had been actively engaged in the research and development activities for the rice milling for the last two decades. The research efforts had been oriented towards the evaluation of rice milling system, drying, parboiling, development of husk dried furnaces, storage of bran and by-product utilization.

Highlighting the problems of milling industry, Dr. Gill said that there was a need to solve the problems of the rice milling. It was necessary to develop and overhaul the milling system to reduce the loss particularly in the fine varieties, capacity utilization of the mill and by-product utilization. The manpower properly trained in milling industry were also needed to operate and maintain the modern

rice machinery, he added.

Dr. S. Manoharan, Director of Agricultural and Processed Food Products, Export Development Authority, New Delhi said that there was a need to produce basmati and non-basmati varieties of rice of international standards as the basmati from Punjab State was in great demand in the international market.

Dr. Swaraj Singh from the Union Ministry of Processing Industries assured the participants that the Ministry would consider favourably the proposal for establishing a Regional R&D, Testing-cum-Training Centre/Institute for helping the rice milling industry, machinery and equipment manufacturers and the training of personnels engaged in the industry.

### Theileria Vaccination Camp

Dr. Khem Singh Gill, Vice-Chancellor of the Punjab Agricultural University, inaugurated the 18th Theileria Vaccination Camp at Jalal in Bathinda district recently. While addressing the dairy farmers on this occasion, Dr. Gill said that to get higher milk yield, the exotic and cross-bred cows should be got vaccinated against Theileriasis, a fatal disease of dairy animals. He further said that the farmers should adopt dairy farming as a profession because it would not only increase their income but also generate more job opportunities for the rural unemployed youth. Dr. Gill opined that the theileria vaccine developed

by the veterinary experts of the PAU would go a long way in bringing about white revolution in Punjab.

Dr. Amarjit Singh Grewal, Professor of Immunology in the College of Veterinary Science of the PAU, who has developed the vaccine, said that the annual mortality rate of exotic and crossbred calves was 20 to 30 per cent which needed to be checked. He hoped that vaccination would greatly help in saving the lives of exotic and crossbred calves and promote milk production.

### Chinese Team Visits HAU

A four-member Director's level Chinese team led by Mr. Mo Yuwen, General Manager, Pig Dairy International Farm, China, visited Haryana Agricultural University (HAU) recently to explore the possibility of developing collaborative programme on buffalo husbandry with HAU. The members of the team visited the College of Animal Sciences and held detailed discussions with the experts working on management, nutritional and breeding aspects of elite herd of buffaloes. The visitors were very impressed with the work done on freezing of buffalo semen.

In a meeting with the Vice-Chancellor, Dr. A. L. Chaudhry the team leader Mr. Mo Yuwen said that there was lot of scope where India and China could join together to revolutionize the production of milching animals. The Vice-Chancellor explained to the visitors various programmes that the University had implemented to provide research base and expertise to the veterinarians and farmers of the state.



## Countrywide Classroom Programme

Between 9th September to 14th September, 1991 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The Programme is available on the TV Network throughout the country.

### 1st Transmission

1.00 p.m. to 2.00 p.m.

#### 9.9.91

"Introduction to Remote Sensing - II"

"Optical Alignment - VI : The Spectrometer"

"The Unwanted Child"

#### 10.9.91

"We the People - II"

"The Hydrogen Spectrum"

"Need and Scope of Nutrition Research"

#### 11.9.91

"Science & Technology Centre-I"

"Mushrooms"

"The Waterborne Diseases"

#### 12.9.91

"Nutritional Blindness"

"Martial Art of Orissa (Paik Dance) - II"

"A.K. Mehrotra and His Experimental Poetry"

#### 13.9.91

"Solar Eclipse"

"DNA Finger Printing - II: Application"

"Zibo Ceramic Ware"

#### 14.9.91

"Sports Medicine - II"

"Rasa Ranjita : Understanding Indian Dance - II : Kathakali - II"

"Rowing in India : Prospects"

### IInd Transmission

4.00 p.m. to 5.00 p.m.

#### 9.9.91

"Optical Alignment - I"

"Test Chart"

"Groundnut Production - Improved Technology for Higher Yields - I"

#### 10.9.91

"Hydrogen Atom"

"Learning Through Games"

"Bio-medical Engineering"

#### 11.9.91

"Albert Einstein"

"Women's Studies in India-I Challenges & perspectives"

"Human Genetic Diseases"

#### 12.9.91

"Emerging Trends in Computers"

"Texture of Literature - II, Stylistics"

#### 13.9.91

"Comet Austin"

"The Shadows of Thought"

"The Flying Lily"

#### 14.9.91

"Artists Against Communalism - III"

"Interactive Video"

"Looking at Paintings - I"

## GAES Fellowships

The German Academic Exchange Service (GAES) has offered 12 fellowships to the University Grants Commission for advanced studies and research at the universities and research institutions in the Federal Republic of Germany for the year 1992-93 in the fields of Natural Sciences, Humanities and Social Sciences (Linguistics, History, Philosophy, Sociology, Economics), Law and German Language and literature.

The Commission has, in turn, asked the universities and other institutions of higher education to nominate suitable candidates by September 15, 1991 from among those aspirants who already have confirmed placements at German universities and institutes.

Two of the 12 fellowships, earmarked for German Language and Literature, are meant for teachers and students of German Language registered for Ph.D with Indian universities and are at an advanced stage of their research work and wish to go to Germany to collect additional material for their theses. The fellowships in Natural Sciences, Linguistics, History, Philosophy, Sociology, Economics, and Law are for staff members in the various departments of universities and affiliated colleges.



## Catching Up With the Rich

A recent study published by the U.S. National Bureau of Economic Research reveals that the gap in living standards between rich and poor countries could be cut in half in 35 years if education expenditures and saving were raised and population growth slowed.

In "A Contribution to Empirics of Economic Growth," economists N. Gregory Mankiw, David Romer and David N. Weil use a variation of a model of economic growth developed by noted economist Robert Solow in 1956. Their work, they say, shows that savings, population growth rates and investment in human capital, especially education, determine the dynamism of an economy, and that every 1% increase of national output devoted to savings or investment in human capital will result in about a 1% rise in the level of gross domestic product per worker. Mankiw, Romer and Weil assert that although the Solow model of economic growth correctly predicts that higher savings lead to increased incomes and higher population growth rates lead to reduced incomes, it does not correctly predict the magnitudes. The authors therefore augment Solow's procedure by adding investment in human capital to the equation.

The three elements — savings, investment in human capital and population growth rates — they say, succeed in explaining differences in the economic performance of countries to a striking degree. Incorporating data from 98 countries from the 1960-85 period into their augmented Solow model, they find that it accounts for about 80 % of the variation in income from country to country, "providing an almost complete explanation of why some countries are rich and other countries are poor."

Mankiw, Romer and Weil's argument contradicts some other models of economic growth that show the gap between rich and poor countries widening indefinitely. These economists have taken issue with the Solow model because its prediction of a tendency to convergence of per capita income among countries appears to be the very reverse of the actual trend. The new study argues that once differences in saving and population growth rates and investment in human capital are accounted for, the empirical data does fit the predictions of the model, and it says that convergence of economic living standards can occur if resources are properly invested.

The authors say their revised Solow model of economic growth has several implications. A higher savings rate leads to higher income, which in turn leads to a higher level of human capital, and there is a big

pay off to investment in education. Faster population growth lowers per capita income because the available capital must be spread more thinly.

Mankiw, Romer and Weil say their augmented Solow model does not predict that all countries will eventually reach the same level of economic development, and is not intended as a complete theory of growth. It is also important to understand what determines saving, population growth, and world wide technological change, they say. They speculate that differences in tax policies, education policies, family size preferences and political stability will be found to be among the ultimate determinants of differences among countries. "We also expect that the Solow model will provide the best framework for understanding how these determinants influence a country's level of economic well-being," they conclude.

### DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY

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Advertisement No. 5/91

The applications on plain paper with detail bio-data are urgently invited upto 9.9.91 for preparation of waiting lists for following Posts. The number and designations of the posts are likely to vary. The qualifications, experience should be in appropriate fields as per the recommendations of the A.I.C.T.E.

1. Professor of Petrochemical Engg.	4500-7300	2 Nos.
2. Professor of Petroleum Engg.	4500-7300	1 No.
3. Prof. of Chemical Engg.	4500-7300	1 No.
4. Asstt. Professor of Petro-Chem. Engg.	3700-5700	1 No.
5. Asstt. Professor of Chem. Engg.	3700-5700	1 No.
6. Asstt. Professor of Mech. Engg.	3700-5700	1 No.
7. Lect. in Petro-Chem. Engg.	2200-4000	1 No.
8. Lect. in Geo-Sciences	2200-4000	1 No.
9. Lect. in Computer Technology	2200-4000	1 No.
10. Lect. in Chem. Engg.	2200-4000	1 No.

B.K. Hedao  
REGISTRAR



## Dispute Settlement Machinery in Universities and Colleges

This is with reference to the paper "A Model for the Dispute Settlement Machinery in Universities and Colleges (in the context of the 123rd Report of the Law Commission of India)" by Prof. S.K. Agrawala published in the issue of *University News* of 17th June, 1991. At the outset it may be recalled that in pursuance of the publication by the Law Commission of India of its working paper "Decentralisation of Administrative Justice : Disputes Involving Centres of Higher Education", I had made some suggestions in relation to the proposal for a Central Educational Tribunal and these suggestions were communicated to the Law Commission. They have been published in the journal section of the noted law Journal *Supreme Court Cases* [(1988) 1 SCC (Jour) 13].

Having gone through the paper under reference, which has very exhaustively dealt with all aspects of the existing machinery at the different levels, after a very painstaking exercise by the learned author, I feel impelled to advert to a couple of aspects, based on my individual opinion, and backed by my long experience in the matter of disputes relating to students, teachers and universities, having had occasion to deal with these matters both in the High Court and the Supreme Court while at the bar and on the Bench. These aspects, I would like to point out, particularly at a time when the 123rd Report of the Law Commission of India is under consideration of the Government.

The two aspects which were highlighted in my suggestions made in pursuance of the working paper published by the Law Commission,

are reproduced herein :

"Presently, only two aspects of the matter are being touched upon. The foremost question is in relation to the composition of the proposed tribunal. The composition as suggested by the Commission in its Paper, would include present and past Vice-Chancellors, people of legal academics, past High Courts Judges and those professionals and retired educationists who have worked in the Ministry of Education in the Government. Prima facie, there appears nothing objectionable in this suggestion but certainly it merits deeper consideration.

The Law Commission, presumably will, while finally proposing the constitution of the tribunal, take into account the decision of the Supreme Court in the case of *S.P. Sampath Kumar v. Union of India* (1987) 1 SCC 124. The case related to the Administrative Tribunals Act wherein vires of Section 28 of the Act which relates to exclusion of jurisdiction of Courts except the Supreme Court under Article 136 of the Constitution was challenged. The Supreme Court held relying upon the *Minerva Mills* case that the powers of judicial review is an integral part of our constitutional system and that there will be no Government of laws without it and the rule of law would become a teasing illusion and a promise of unreality. It further held that the Parliament can set up affective alternative institutional mechanisms or arrangements for judicial review provided of course this alternative

mechanism or arrangement is no less efficacious than the High Court. The Supreme Court has held that the Tribunal should be a real substitute of the High Court — not only in form and *de jure* but in content and *de facto*. The alternative arrangement has to be effective and efficient as also capable of upholding the constitutional limitations.

It has, therefore, to be seen as to whether proposed composition of the Educational Tribunal would satisfy the test which has been laid down by the Supreme Court in relation to the Administrative Tribunals Act. The power of judicial review being an integral part of the Constitution has to be preserved both in its form and content. No doubt the anxiety of the Law Commission appears to be, as evidenced from the paper, that a legalistic approach in the matters of disputes relating to this sphere, more than often militates against correct decision which may serve the cause of good administration in the institutions of higher education. But this does not mean that we should persuade ourselves to reduce the number of legal experts from the composition of the Tribunal. The composition should be such that it can evince an apparent judicial approach to the issues involved, with due regard to the view of academic experts in the matter, but certainly not so as to give it a look of an overwhelming administrative approach. The judicial core and substance of the decision of the tribunal should be ensured for it is that alone which can infuse confidence in the decision-making authority. The decision so made would, of course, be subject to any decision which may be rendered by the Supreme Court in its jurisdiction under Article 136 of the Constitution.

It may also be relevant to mention that the inclusion of Vice-



Chancellors, be they present or past, as proposed by the Commission, may in many a case not serve the desired purpose. It has been lately seen that many present day Vice-Chancellors are either themselves men of politics or who have been appointed not because they are academicians and well-versed in university administration but because of political affiliations.

The purpose of constitution of Central Educational Tribunal is to exclude the jurisdiction of the High Courts under Article 226 and 227 of the Constitution. This can only be achieved to the desired degree if the provisions enabling the making of representations to the Visitor or the Chancellor of the University concerned, are deleted from the different enactments relating to universities. Under the different Central Acts which govern the central universities, invariably there is a provision empowering the Visitor who is the President of India, to annul any proceedings of the university which is not in conformity with the Act, Statutes and Ordinances thereunder. A mention may herein be made of sub-section (6) of Section 13 of the Aligarh Muslim University Act, 1920 and sub-section (7) of Section 5 of the Banaras Hindu University Act, 1915. Even under the State Acts which govern the State Universities, where the Governor of the State is the Chancellor of the University concerned, there is by and large, a provision conferring a power upon the Chancellor to examine as to whether any decision of any authority or officer of the university is in conformity with the Acts, and the Statutes and Ordinances made thereunder and the decision of the Chancellor has been made final.

During the years it has been held by the Courts that before resorting to the jurisdiction of

the High Court under Article 226 of the Constitution, an aggrieved person must have already availed of alternative remedies available to him under these Acts, Statutes and Ordinances. Even under the Central Administrative Tribunal Act, 1985 express provisions have been that exhaustion of the available alternative remedies is a must before a claim by the aggrieved person can be entertained by the Tribunal. There further exists a provision expressly, laying down certain rules of limitation relating to entertainment of claims.

In view of the aforesaid, it appears necessary that the provisions in the different Central and State Acts which enable the Visitor or the Chancellor, as the case may be, to examine and annul any decision or proceeding of the university, should be deleted from the different Acts."

I would like to add in Part I of the Article under reference that it has been observed by Prof. S.K.Agrawala that in spite of the jurisdiction of the civil courts having been totally barred as regards certain University Acts, the Civil Courts still continue to entertain suits and grant injunctions in matters which are covered under the ouster-clause. This aspect has also been noticed by Shri Y.V. Anjaneyulu, Justice Member, Law Commission of India in *University News* (August 5, 1991 issue). It has been rightly pointed out by Justice Anjaneyulu that the remedy is to seek quashing of the order of the civil court, by a writ petition before the High Court under Article 226 of the Constitution. It may be mentioned that in many a case, the High Courts have been approached and such orders passed by the civil courts have been quashed. Gradually the breach of the ouster-clause is getting minimised. The malady is not the lack of power with

the High Court or its refusal to interfere in its jurisdiction under Articles 226 and 227 of the Constitution but the unwarranted, impermissible exercise of powers by the Civil Courts. Any such improper exercise by the civil courts can undoubtedly be got corrected by the higher courts.

In part III of the Article under reference Prof. S.K.Agrawala has, in my view, rightly stated that a participatory committee model in which teachers/principals, a judicial member and students are represented would just not function in most of the universities, because the students would not permit these committees to proceed with their work in a detached and impartial manner. This approach of Prof. S.K. Agrawala apparently has the hue of pragmatism, based on his rich administrative experience in the educational field. I share his views and am unable to agree with the different view expressed by Justice Anjaneyulu. It may be true what Justice Anjaneyulu has said in regard to the inspiring of confidence in the student community by the students' involvement by participation in the adjudication machinery; but, the question is as to whether practically such a participation can be effectively managed. Undoubtedly, as Prof. Agrawala has stated, it would lead to open confrontation between the teacher and the student members of that body.

Through these columns I would entreat Government to carefully consider the recommendations of the Law Commission in its 123rd Report in the light of the many suggestions which may be received so that what emerges out finally is a product worthy of emulation and an effective and expeditious machinery for settlement of disputes is set up at the earliest.

B.D. Agarwala  
Senior Advocate, Supreme Court,  
Formerly Advocate General U.P.  
and  
Judge, High Court, Allahabad.



# CALENDAR OF EVENTS

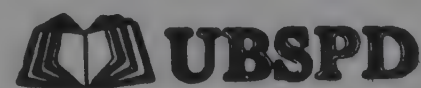
Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be Contacted
Sept. 16-20, 1991	Regional Symposium on Educational Testing	Theme : Reforms and enhancements in educational testing system, test contents and formats in a country (or region)	The National Education Examination Authority (NEEA), People's Republic of China	Mr. Yang, Xuewai, Director, National Education Examinations Authority (NEEA), State Education Commission, 30 Yu Quan Road, Beijing 100039, The People's Republic of China
Sept. 17-18, 1991	Fourth Annual Conference of the Asian Association of Open Universities	To explore the need, desirability, practicability and relevance of face to face components in Distance Education	The Open University of Sri Lanka, Colombo, Sri Lanka	Ms. C Suriyapperuma, Organising Secretary, AAOU Conference, Open University, Box 21, Nugegoda, Sri Lanka
December 9-26, 1991	Winter School on use of Statistical Software	To introduce college and university teachers to computer-oriented statistical methods and to train them in the use of statistical software packages.	Indian Statistical Institute, Calcutta	The Course Director, Winter School on use of Statistical Software, Computer Science Unit, Indian Statistical Institute, 203, Barrackpore Trunk Road, Calcutta-700 035

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The columns 'Theses of the Month' and 'Research in Progress' are intended to cut out the time lag between the receipt of information and its inclusion in the bibliography. Such universities as are not sending us regular information in respect of doctoral theses accepted and research scholars enrolled are welcome to make use of these columns.

The library also receives about a 100 periodical titles on higher education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'. Similarly the column 'Education News Index' reports editorials and articles on higher education published in over 20 newspapers that are received in the library from all over the country.

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## Current Documentation in Education

A list of select articles culled from periodicals received  
in AIU Library during August 1991

### EDUCATIONAL SOCIOLOGY

Shah, A N. Job reservations and efficiency. *Eco & Pol Weekly* 26(29), 1991, 1732-34.

### EDUCATIONAL PLANNING

Amrik Singh. Ramamurti report on education in retrospect. *Eco & Pol Weekly* 26(26), 1991, 1605-13.

Hartley, David. Education policy and the identification of needs. *Oxford Rev of Edn* 17(1), 1991, 103-14.

### EDUCATIONAL ADMINISTRATION

Samoff, Joel. Local initiatives and national policies: The politics of private schooling in Tanzania. *Intl Jr Ednl Res* 15(5), 1991, 377-91.

### TEACHERS & TEACHING

Buchmann, Margret and Floden, Robert E. Programme coherence in teacher education: A view from the USA. *Oxford Rev of Edn* 17(1), 1991, 65-72.

Carlsen, William S. Questioning in classroom: A sociolinguistic

perspective. *Rev Ednl Res* 61(2), 1991, 157-78.

Mathieson, Margaret. 1991: The teaching of English in England. *Oxford Rev of Edn* 17(1), 1991, 3-16.

### EDUCATIONAL RESEARCH

Bangert-Drowns, Robert L and others. Instructional effect of feedback in test-like events. *Rev Ednl Res* 61(2), 1991, 213-38.

### EDUCATIONAL TECHNOLOGY

Kozma, Robert B. Learning with media. *Rev Ednl Res* 61(2), 1991, 179-211.

### EDUCATIONAL EVALUATION

Farr, Roger and others. Description of what happens when an examinee takes a multiple-choice reading comprehension test. *Jr Ednl Measurement* 27(3), 1990, 209-26.

Scheuneman, Janice Dowd and Gerritz, Kalle. Using differential item functioning procedures to explore sources of item difficulty and group performance characteristics. *Jr Ednl Measurement* 27(2), 1990, 109-31.



Woodruff, David. Conditional standard error of measurement in prediction. *Jr Ednl Measurement* 27(3), 1990, 191-208.

#### ECONOMICS OF EDUCATION

Etzkowitz, Henry and Peters, Lois S. Profiting from knowledge: Organisational innovations and the evolution of academic norms. *Minerva* 29(2), 1991, 133-66.

James, Estelle. Public policies toward private education: An International comparison. *Intl Jr Ednl Res* 15(5), 1991, 359-76.

Levin, Henry M. Economics of educational choice. *Eco of Edn Rev* 10(2), 1991, 137-58.

West, Edwin G. Public schools and excess burdens. *Eco of Edn Rev* 10(2), 1991, 159-69.

Williams, Trevor and Carpenter, Peter. Private schooling and public achievement in Australia. *Intl Jr Ednl Res* 15(5), 1991, 411-31.

#### VOCATIONAL EDUCATION

Hodkinson, Phil. Liberal education and the new vocationalism: A progressive partnership? *Oxford Rev of Edn* 17(1), 1991, 73-88.

Marshall, Stephanie. Genesis and evolution of pre-vocational education: West Germany. *Oxford Rev of Edn* 17(1), 1991, 89-102.

OPEN LEARNING system for careers guidance. *Open Learning* 6(1), 1991, 59-64.

Sowtis, Dennis. Soviet industrial strategy and reforms in vocational education, 1984-88: Policy implications and implementation. *Comp Edn* 27(1), 1991, 23-33.

Sudhindra, B S. Making medical education open learning: A strategy. *Jr Distance Edn* 3(3), 1991, 13-20.

Temple, Hilary. Starting them young: Flexible learning in the TVEI programme. *Open Learning* 6(2), 1991, 28-35.

#### ADULT EDUCATION

Cleverley, John. "On the evidence before me ...": Putting the case for rural educational reform in China. *Comp Edn* 27(1), 1991, 53-60.

#### DISTANCE EDUCATION

Balasubramanian, P S. Technology & distance education. *Jr Distance Edn* 3(3), 1991, 77-85.

Bhoodev Singh and Archana Singh. Gender differences in attitude towards distance education - Are they real? *Jr Distance Edn*

3(3), 1991, 5-12.

Chib, S S. Distance education in India: Some issues and challenges. *Jr Distance Edn* 3(3), 1991, 112-21.

Daniel, John. Open university in a changing world. *Open Learning* 6(1), 1991, 3-8.

DISTANCE EDUCATION in the third world. *Open Learning* 6(1), 1991, 54-5.

Ekbote, E R and Nageshwar Rao, T. Preception of college teachers on distance education. *Jr Distance Edn* 3(3), 1991, 21-6.

Gupta, Arun K and Renu Arun. Trends in distance education. *Jr Distance Edn* 3(3), 1991, 1-4.

Gupta, S K. Techniques of evaluation of response-sheets and allied problems. *Jr Distance Edn* 3(3), 1991, 102-11.

Oliveira, Joao Batista Araujo e and Rumble, Greville. Distance education in Latin America: A review. *Open Learning* 6(1), 1991, 30-41.

Pathusha, K M. Restructuring existing correspondence course into distance education using multi-media approach. *Jr Distance Education* 3(3), 1991, 51-5.

PROMISE AND performance of Andhra Pradesh Open University. *Open Learning* 6(1), 1991, 45-9.

Rathore, Harish C S. Implications for the distance teaching universities in developing countries: Computer applications at the fernuniversitat. *Jr Distance Edn* 3(3), 1991, 32-44.

Saini, G S and Gill, L S. Media choice in distance education. *Jr Distance Edn* 3(3), 1991, 27-31.

Sharma, Om Prakash. Linking mastery learning to distance education. *Jr Distance Edn* 3(3), 1991, 60-70.

UK OU 'Enterprise in higher education' programme. *Open Learning* 6(1), 1991, 51-4.

#### COMPARATIVE EDUCATION & COUNTRY STUDIES

Geodegebuure, Leo C J and Lyan Meek, V. Restructuring higher education: A comparative analysis between Australia and Netherlands. *Comp Edn* 27(1), 1991, 7-22.

Kitzinger, Uwe. Higher education: An international dimension. *Oxford Rev of Edn* 17(1), 1991, 33-44.

## THESES OF THE MONTH

### A list of Doctoral Theses accepted by Indian Universities

#### BIOLOGICAL SCIENCES

##### Anthropology

1. Mahinder, Chumki. A comparative ethno-biological study of some communities of different origin, inhabiting similar ecosystems. Calcutta.

##### Environmental Sciences

1. Krishna Reddy, Bompally. Studies on the industrial and urban pollution in Kukutpally channel, the main feeding channel of lake Hussain Sagar, Hyderabad, Andhra Pradesh, India and its impact on algal communities. Andhra.



2. Sitaramachary, Tatta. Genetic analysis of certain agronomic characters in white burley tobacco, *N. tabacum* L. Andhra.

#### Biology

1. Anantapur, Shaik Rafiuddin. Food value of selected zooplanktons to the post larvae of *Penaeus mergulensis* reared in the laboratory. Karnatak, 1985-91. Dr (Mrs) Kusuma Neelakantan, Reader, Department of Marine Biology, Kodibag, Karwar.

2. Cyriac, P J. Toxicological studies on *Oreochromis mossambicus* Peters. CUST. Dr A Antony, Reader, School of Marine Sciences, Cochin University of Science and Technology, Kochi and Late Dr P N Krishnan Nambisan.

3. Joseph, Jomon. Studies on the dynamics of Cochin Estuary. CUST. Dr P Gopalakrishna Kurup, Prof and Head, Physical Oceanography and Meteorology Division, School of Marine Sciences, Cochin University of Science and Technology, Kochi.

4. Karunakaran, T. Genetics of *Zygomonas mobilis* gene cloning and expression in *Escherichia coli*. Madurai.

5. Mariappan, M. Regulation of gene expression during cardiac hypertrophy: Extracellular factors in myocardial protein gene expression. Madurai.

6. Subramanian, S K. Studies on diatoms from the marine environment of Tuticorin. Madurai.

7. Valsalakumari, C S. Physiology of the blood of cat fishes. CUST. Dr C T Samuel, Prof (Retd), Department of Industrial Fisheries, Cochin University of Science and Technology, Kochi.

8. Vijayakumaran, M. Energetics of a few marine Crustaceans. CUST. Dr P V Ramachandran Nair, Principal Scientist (Retd), Central Marine Fisheries Research Institute, Kochi.

#### Biochemistry

1. Bandyopadhyay, Manika. Studies on behavioural activities and brain biochemical composition in rat after treatment with contraceptive agents. Calcutta.

2. Baskaran, R. Structural features and DNA binding properties of rat spermatidal protein, TP2. I I Sc.

3. Chakrabarti, Amitabha. Biochemical studies on the in vitro effect of sodium valproate on human foetal brain. Calcutta.

4. Datta, Jharna. Studies of glutathione S-transferase produced by *Aspergillus ochraceus* T S. Calcutta.

5. Garg, Pinky. Cloning and expression of gonadotropin hormone genes. Jamia. Dr Arif Ali, Department of Bio-Sciences, Jamia Millia Islamia, New Delhi and Dr S K Jain, Department of Biochemistry, Jamia Hamdard, New Delhi.

6. Joshi, Udai Narayan. Effect of sulphur dioxide on carbon and nitrogen metabolism in sorghum, *Sorghum bicolor* L and cowpea, *Vigna unguiculata* L. HAU.

7. Karuri, Asokranjan. Mode of action of gamma irradiation and antitumour drugs on transplanted tumour cells. Calcutta.

8. Mansoor, Sabina. Biochemical and cytogenetic studies on vitiligo in human beings. Osmania.

9. Renukaprasad, C. Morphological and immunological studies on bovine theileria parasites. I I Sc.

10. Sudhakar, L. Identification of a unique germ cell-specific L amine persisting through spermatogenesis in rat. I I Sc.

11. Venkateswar, V. Intragenic pausing and regulation of CYP2B1/B2 gene expression in rat liver: Role of heme. I I Sc.

12. Vijayalakshmi, K. Factors controlling the entry of Ricin: Use of Cibacron Blue and liposomal ganglioside systems - an in vitro study. I I Sc.

#### Microbiology

1. Kanetkar, Shrikrishna Nilkanth. Studies on secondary aerobic treatment of distillery waste. Shivaji. Dr S H Godbole, 'Krishna', 8, Banner Park, Banner, Pune.

2. Sneha Lata. Effect of organic amendments and cropping practices on soil microbial biomass. HAU.

#### Botany

1. Chakrabarti, Amit Kumar. Studies on identification of tomato cultivars. Calcutta.

2. Chattopadhyay, Dipayan. Chromosome studies and estimation of nuclear DNA in some dioecious species of a few angiosperms as well as in some members of umbelliferae. Calcutta.

3. Chudiwale, Anand Deendayalji. Morphological studies of plant remains from fossiliferous localities of Chhindwara and Betul Districts of Madhya Pradesh, India. Nagpur. Dr G V Patil, Department of Botany, Institute of Science, Aurangabad.

4. Das, Asok Kumar. Investigation on the leaf inhabiting deuteromycetous fungi of West Bengal. Calcutta.

5. Gore, Sandhya Ramchandra. Satellite remote sensing technique in the assessment of salinity in Gujarat and its impact on vegetation. Baroda.

6. Irudayaraj, V. Cytotaxonomic study on the fern flora of the Western Ghats. Madurai.

7. Kalkar, Surekha Anil. Aerobiological studies of Nagpur Region, Maharashtra. Nagpur. Dr G V Patil, Department of Botany, Institute of Science, Nagpur.

8. Nedunchezian, N. Effect of ultraviolet B (280-320nm) enhanced radiation on growth, thylakoid organization and photosynthetic activities in *Vigna sinensis* L. Madurai.

9. Prajapati, Rajendra Kumar. Productivity pattern and nutrient cycling in successional forests of the Western Himalayas. HS Gour. Prof G P Mishra, Department of Botany, Dr Harisingh Gour Vishwavidyalaya, Sagar and Dr P K Khosla, Prof and Head, Department of Forestry, Dr Yashwant Singh University of Horticulture and Forestry, Solan.

10. Ramana, V V. Physiological and biochemical changes associated with late wilt of maize, *Zea mays* L. Osmania.

11. Sarojini, Yendava. Studies on phytoplankton of sewage and sewage receiving harbour waters at Visakhapatnam. Andhra.

12. Sharma, Vandana Shashikant. Rapid propagation of *Crataeva nurvala* through tissue culture. Baroda.

13. Siddiqui, Zaki Anwar. Studies on the co-inhabitation of *Meloidogyne incognita* (Kofoid & White) Chitwood and *Macrophomina phaseolina* (Tassi) Gold on *Cicer arietinum* L. AMU. Prof S Israr Husain, Department of Botany, Aligarh Muslim University, Aligarh.

14. Sinha, Chandra Shekhar. Response of agroecosystem to coal dust pollution. Magadh. Dr D D Pandey, Lecturer, Department of Botany, S P M College, Udantpuri, Biharsharif.



15. Sinha, Rabindra Kumar. Chromosome analysis and DNA estimation in the tribe Aloineae and in vitro study of some leguminous taxa. Calcutta.

16. Wazalwar, Kalpana Gajananrao. Investigations of fossil flora from the Deccan Intertrappean series of India. Nagpur. Dr (Mrs) P D Kolhe, Department of Botany, Institute of Science, Nagpur.

#### Agriculture

1. Ramamoorthy, Selvam. A study of sorghum and pearl millet in the dryland agroecosystem of Madurai District. Madurai.

2. Sarkar, Krishna. Studies on some aspects of utilizing non-edible oilcakes as manures. Calcutta.

3. Suryawanshi, Somnath Dodhu. Resource use structure and allocation efficiency in bajra, *Pennisetum americanum* L cultivation in Western Maharashtra. MP Krishi.

4. Thind, Karanjeet Singh. Studies on introgression in desi x kabuli chickpea crosses. PAU.

#### Zoology

1. Balaswamy, Kalivela. Squids and cuttlefishes off Visakhapatnam coast with special reference to biology and trace metal analysis of *Sepiella inermis*. Andhra.

2. Banerjee, Suchitra. Effect of paper factory effluent on certain selected fishes. Jiwaji. Dr R R Das, Prof and Head, Department of Botany, Jiwaji University, Gwalior.

3. Bansal, Suresh Chandra. A study of ecology of *Rhizopertha dominica* Fab and *Sitophilus oryzae* Linn and their pest status in relation to wheat grains. Punjabi. Prof Tarlok Singh, Department of Zoology, Punjabi University, Patiala and Dr H R Pajni, Department of Zoology, Punjabi University, Patiala.

4. Chetty, J Sulochana. Ecophysiological studies in chosen myriapods. Madurai.

5. Gangopadhyay, Arun Kumar. Studies on the reproductive physiology of the stored-grain pest *Alphitobius diaperinus* Panz (Coleoptera: Tenebrionidae). Calcutta.

6. Ghosh, Smita. Microscopic studies on the biology of the female reproductive system of an Indian thysanuran insect. Calcutta.

7. Haldar, Sukdeb. Newer observation on the haemolymph cells of *Lamellidens marginalis*. Calcutta.

8. Inamdar, Shakera Amir. Biosystematic studies in braconid parasitoids of some economically important crop pests from Western Maharashtra. Shivaji. Dr T V Sathe, Department of Zoology, Shivaji University, Kolhapur.

9. Kanakavalli, N. Studies on the helminth parasite population of *Ophiocephalidae*. Osmania.

10. Kunjukunju, Jayamma. Studies on hormonal control of calcium metabolism in the frog, *Rana tigrina*. Nagpur. Dr D M Dubewar, Department of Zoology, Nagpur University, Nagpur.

11. Mukhopadhyay, Indrani. Hymenopterous natural enemies of the yellow rice borer, *Scirpophage incertulas* Walker and their role in population regulation. Calcutta.

12. Narasimha Rao, Nidumolu. Ecological studies on helminth parasites of mullets. Andhra.

13. Paily, K P. Studies on the biology and biological control potential of *Romanomermis lyengari* Welch, a mermitid nematode parasite of mosquitoes. Pondicherry. Dr P K Rajagopalan, Department of Zoology, Vector Control Research Centre, Pondicherry.

14. Sanas, Kavita Prataprao. Neurosecretory control over the reproduction of *Semperula maculata*. Shivaji. Dr S G Nanaware, Department of Zoology, Shivaji University, Kolhapur.

15. Sarkar, Saurav K. Study of immunocompetent cell types in the Bat, *Pteropus giganteus*. North Bengal.

16. Umakar, Sudhir Pundlikrao. Studies on neuroendocrine system of the fruit sucking moth, *Achoea Janata* Linn (Lepidoptera: Noctuidae). Nagpur. Dr V K Thakare, Department of Zoology, Nagpur University, Nagpur.

17. Verma, Versha. Effect of JH: Ecdysone and other ovarian factors on the regulation of reproduction in insects. HS Gour. Dr R S Saini, Prof (Retd), Dr Harisingh Gour Vishwavidyalaya, Sagar.

18. Vincent, Martin Jude. Biological control of *Oryctes rhinoceros* L with special reference to host pathogen relationship. Madurai.

19. Yatheesh, S. Study of the trophic status of the Sagar Lake with special reference to the macrobenthic invertebrates. HS Gour. Dr V S Bais, Department of Zoology, Dr Harisingh Gour Vishwavidyalaya, Sagar.

#### Medical Sciences

1. Banik, Nupur. Studies on the mechanism of action of heat stable enterotoxin (ST) of *Escherichia coli* in rat intestinal epithelial cells. Calcutta.

2. Bhatnagar, Piush. Immunocontraception in rabbits and nonhuman primates following active and passive immunizations with porcine zona pellucida antigens. PGI.

3. Gurumurthy, S R. Biochemical and clinical studies in cerebrovascular disorders. Bangalore. Dr B S Sridhara Rama Rao, Prof and Head, Department of Neuro Chemistry, National Institute of Mental Health and Neuro-Sciences, Bangalore.

4. Kar, Kalipada. Studies on exometabolites of *Leishmania donovani* promastigotes grown in synthetic media. Calcutta.

5. Mandal, Haripada. Role of melatonin on gonadal activity in male rats: Possible influence of sex dependent urinary protein. Calcutta.

6. Mukhopadhyay, Saumitra. Effects of ascorbic acid supplementation upon the physiological responses to exercise in male athletes. Calcutta.

7. Pani, S P. Epidemiology of malaria persistence in Koraput District, Orissa State. Pondicherry. Dr P K Rajagopalan, Department of Epidemiology, Vector Control Research Centre, Pondicherry.

8. Telang, Suparna Dattatraya. Sexuality in the mentally retarded. Shivaji. Dr S K Ganeriwal, Dean, Grant Medical College and Sir J J Hospital, Bombay.

#### Animal Husbandry

1. Pal, Prem. Effects of blood biochemical, polymorphic traits and environmental variations on growth, production and reproduction of murrah buffaloes. IIAU.





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8) Computer Science	1	O.C.
9) Criminology	1	B.C.(W)
10) Crystallography & Bicphysics	1	S.C.(W)
11) Dr. S. Radhakrishnan Institute of Advanced Study in Philosophy	1	M.B.C./D.N.C.
	1	O.C.(W)
12) Economics	1	B.C.
13) Econometrics	1	O.C.
14) English	1	B.C.(W)
15) Geography	1	S.C.
16) Inorganic Chemistry	1	M.B.C./D.N.C.
	1	O.C.
17) Institute of Correspondence Education:		
Public Administration	1	B.C.
	1	O.C.(W)
18) Kannada	1	B.C.
19) Management Studies	1	M.B.C./D.N.C.(W)
	1	S.C.
	1	B.C.
20) Organic Chemistry	1	O.C.
	1	M.B.C./D.N.C.(W)
21) Pathology	1	O.C.
	1	B.C.
22) Pharmacology	1	S.C.(W)
	1	M.B.C./D.N.C.
23) Physiology	1	O.C.(W)
	1	B.C.(W)
24) Politics and Public Administration	1	S.T.
25) Statistics	1	B.C.
26) Theoretical Physics	1	S.C.
	1	M.B.C./D.N.C.
27) Zoology	1	O.C.
	1	B.C.(W)

## General qualification for the post of Lecturer

- Master's degree in the relevant subject with a minimum of 55 per cent marks or its equivalent grade with good academic record and a pass in the CSIR-UGC National Level Test or State Level Screening Test of the Government of Tamil Nadu. A Ph.D. in the relevant subject will be a preferable additional qualification.
- Candidates who qualified for M.Phil before 31.12.1990 or who would qualify Ph.D. before 31.12.92 are exempted from appearing for the CSIR-UGC/State Level Screening Test.

## Qualification for the post of LECTURER for the following Departments :-

### 1) Lecturer in Anatomy

- M.S. Anatomy, M.Sc. Anatomy, Ph.D. Anatomy, D.Sc. Anatomy; (ii) 3 years of teaching experience as a Tutor/Demonstrator in Anatomy of which one year should be after postgraduate qualification.

### 2) Lecturer in Pathology

- I or II Class P.G. Degree, M.D. Pathology & Bacteriology, Ph.D. Pathology, D.Sc. Pathology; (ii) 3 years of teaching experience as Tutor/Clinical Pathologist/Resident Pathologist/Demonstrator in Pathology of which one year should be after a P.G. Qualification.

### 3) Lecturer in Pharmacology

- A basic Medical degree M.B.B.S., (ii) M.D. Pharmacology, M.Sc. Pharmacology, Ph.D. Pharmacology, D.Sc. Pharmacology; (iii) 3 years of teaching experience as Tutor/Demonstrator in Pharmacology of which one year should be after postgraduate qualification.

### 4) Lecturer in Physiology

- A basic Medical degree M.B.B.S., (ii) M.D. Physiology, M.Sc. Physiology, Ph.D. Physiology, D.Sc. Physiology (iii) 3 years of teaching experience as Tutor/Demonstrator in Physiology of which one year should be after P.G. qualification.

Candidates who fulfil the above requirements may obtain the Specimen application form, Field of specialisation and other details from the Registrar, University of Madras, Chepauk, Madras - 600 005 on requisition on payment of Rs. 10/- towards Registration fee through a Demand Draft drawn in favour of Registrar, University of Madras, in person or in mail by enclosing a self-addressed stamped envelope (size 30 x 12 cms) to the value of Rs. 2.50. No registration fee for S.C. and S.T. candidates.

Application form and other details can be had from the University on or before 11.9.1991. Candidates abroad may apply in plain paper enclosing Bio-data (8 copies). The last date for submission of filled up applications is 20.9.1991.

O.C. = Open Competition

B.C. = Backward Community (as per Tamil Nadu Government)

M.B.C./D.N.C. = Most Backward Community/  
Denotified Community

S.C. = Scheduled Caste (All India)

S.T. = Scheduled Tribes (All India)

Dr.A. SIVAMURTHY  
REGISTRAR - IN-CHARGE



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1. Universities Handbook	In Progress	57. Scaling Techniques : What, Why & How	75.00
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9. Association of Indian Universities-1925-75	50.00	65. Monograph on Practical Examinations	30.00
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25. Physical Sciences	125.00	80. Physics	70.00
26. Biological Sciences	100.00	81. Chemistry	136.00
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Address Enquiries to :

Under Secretary (Publications)

**Association of Indian Universities**

AIU House, 16 Kotla Marg, New Delhi - 110 002

Telephone : 3310059, 3312429, 3313390, 3312305

Telex : 31-66180 AIU IN

GRAM : ASINDU



# CLASSIFIED ADVERTISEMENTS

## BANARAS HINDU UNIVERSITY

(Advertisement No.1/1991-92)

APPLICATIONS are invited for the following permanent posts :

Post	Pay Scale	Department
1. Professor of Computer Science (One)	Rs.4500-7300.	Dept. of Computer Science, Faculty of Science
2. Reader in Computer Science (One)	Rs. 3700-5700.	
3. Lecturer in Computer Science (One)	Rs.2200-4000.	-do-
4. System Programmer (Purely temporary) (One)	Rs.2200-4000.	- do-
5. Lecturer in Computer Engg. (Two)	Rs.2200-4000.	Dept. of Computer Engg., Instt. of Technology.
6. Reader in Computer Science Applications (one)	Rs.3700-5700.	Computer Centre.

Qualifications and experience required for the posts of Professor/Reader/Lecturer are as approved by the University Grants Commission. For the post of System Programmer detailed qualifications can be had from the Instructions Sheet.

Application forms and detailed information can be obtained from the Registrar (Selection Committee Section), Banaras Hindu University, Varanasi-221 005, by sending a crossed IPO/Bank Draft for Rs.2/- in favour of the Registrar, BHU alongwith self-addressed envelope of 23 cm x 10 cm size carrying stamps worth Rs.2.60. The last date for receipt of applications for posts at S.Nos. 1,2,3,5, & 6 is 15th October, 1991 and for S.No.4, 15th September, 1991.

**Note:** 1. In case the response to the advertisement is large, the University reserves the right for applying more stringent criteria for inviting candidates for interview than those approved by UGC.

2. For the post of lecturers the number of vacancies may increase by the time the Selection Committee meets to interview candidates.
3. Those who applied for the post of System Programmer earlier in response to the advertisement dated 2.7.1990 may update their bio-data before the expiry of the last date.
4. Applications received after last date shall not be entertained.
5. Those who have already applied for the post of Reader in Computer Science Applications in response to Advt. No. 1/1990-91 need not apply again but may update their bio-data before the expiry of last date.

DY. REGISTRAR (ADMIN.)  
(Selection Committee Section)

## NORTH EASTERN REGIONAL INSTITUTE OF SCIENCE AND TECHNOLOGY

ITANAGAR:ARUNACHIAL PRADESH  
(Sponsored by Government of India)

### ADVERTISEMENT NO.1/91

Applications are invited in the prescribed form from the Indian citizens for the following positions upto 15.10.91 in the pay scales noted against each:

(1) **PROFESSORS:** (i) Civil(ii) Mechanical/Production (iii) Electrical (iv) Electronics/Telecommunication(v)Computer Science/Engineering (vi) Agriculture Engineering (vii) Mathematics (viii) Physics (ix) Chemistry (x) Management/Economics/Sociology.Rs.4500-150-5700-200-7300/-pm; 50 years; EQ:Excellent academic record with Doctorate in the appropriate field from a recognised University/Institute, minimum 10 years of experience in teaching/research/Industry and specialised knowledge in one or more fields. Professional work of outstanding merit and experience of carrying out independent research and guiding research are desirable.

Candidates not possessing Ph.D in Engineering/Technology may also be considered if they have to their credit equivalent published research/design and development work of high standard either in an Institution or in an Industry.

(2) **ASSISTANT PROFESSORS/LECTURERS:** (i) Civil (ii) Mechanical/Production (iii) Electrical (iv) Electronics/Telecommunication (v) Computer Science/Engineering (vi) Mathematics (vii)Physics (viii) Chemistry (ix) Management/Economics/Sociology (x) English

(a) Assistant Professor: Rs. 3700-125-4950-150-5700/-pm; 45 years; EQ:A consistently good academic record with a Doctorate in the relevant field. About 5 years experience in teaching and/or research and development. Candidate not possessing Ph.D in Engineering/Technology may also be considered if they have to their credit equivalent published work of high standard in an Institution or in an Industry.

(b) LECTURER: Rs. 2200-75-2800-100-4000/- pm; 40 years; EQ:First Class Bachelor's Degree in appropriate branch of Engineering and Technology or First Class Masters Degree in appropriate branch of study in Humanities and Sciences (ii)Qualifying in an All India Examination (Such as GATE or equivalent). **DESIRABLE:** (i) A good Masters Degree in appropriate field of Engineering and Technology or Doctorate De-

# GATE-92

## GRADUATE APTITUDE TEST IN ENGINEERING

A requirement for admission to postgraduate programmes with Scholarship

**GATE - 92 will be held on  
Sunday, the 9th February 1992.**

For details, please look into the GATE - 92 posters in your Institutions/Universities,

Details will also be announced in Newspapers in September end & October middle of 1991



gree in relevant field of Management/Humanities/ Sciences(ii) About one year experience in teaching/research/industry.

**(3) TRAINING AND PLACEMENT OFFICER:** Rs. 3700-125-4950-150-5700/- pm; 45 years; EQ: A consistently good academic record with a postgraduate degree in science or engineering (ii) About 5 years experience in training, placement and career guidance of engineering graduate.

**NOTE:** In case, a suitable person at Asstt. Professor level is not available, the appointment may be made in Lecturer's grade.

Those who have applied against Advertisement No.2/89 need not apply again.

**(4) REGISTRAR:** Rs.3700-125-4700-150-5000/-pm; 45 years; EQ:(i) A postgraduate degree with at least 55% marks or its equivalent grade (ii) 10 years experience as a Lecturer with experience in educational Administration, OR comparable experience in research establishment and other institutions of higher education, OR 10 years of administrative experience of which 5 years as Deputy Registrar or an equivalent post. If the person is not found suitable for the above post, the candidate will be offered the lower post of Deputy Registrar/Assistant Registrar.

**(5) ASSISTANT REGISTRAR:** Rs. 2200-75-2800-100-4000/- pm; 40 years; EQ: A postgraduate degree with at least 55% marks or its equivalent grade. (ii) 5 years working experience in a Group B post in handling Academic/Administration/Accounts/Stores/Purchase etc. in a University or other Government Institution.

**(6) LIBRARIAN:** 2200-75-2800-100-4000/-pm; 40 years; EQ: First or Second Class M.Lib Science Degree or First Class. B.Lib Science with 5 years of experience in a recognised University or Institution Library.

**(7) ASSISTANT LIBRARIAN:** Rs. 1640-60-2600-EB-75-2900/- pm; 30 years; EQ: Bachelor's Degree in Lib. Science with 5 years experience in a recognised University or Institution.

For application forms write to Deputy Registrar (Admin), NERIST, Nirjuli, Itanagar, Arunachal Pradesh enclosing a self addressed Rs.2/-stamped envelope (23 cm x 10 cm) together with a fee in crossed Bank Demand Draft for Rs.7.50 payable to Director, NERIST, (Rs. 2.50 for SC/ST candidate) on any scheduled Bank payable at Itanagar. Candidates from abroad may apply on plain paper.

Age and experience are relaxable as per the prescribed norms in the case of SC/ST and other exceptional cases.

Applications complete in all respects along with attested/photocopies of the certificate/testimonials should reach Deputy Registrar (Admin) on the above address on

or before 15.10.91 by registered post only. Incomplete applications and applications received late will not be considered.

DEPUTY REGISTRAR (Admin)

## THE UNIVERSITY OF BURDWAN

Advertisement No.5/91-92

Dated August 20, 1991

Applications in the prescribed form are invited for the following posts in the approved UGC's Scales of pay : - (A) Readership in English ... Two posts [ First post (Lien free) and Second post (Lien bound but likely to be permanent)]; (B) Readership in Bengali ... One post ; (C) Readership in Chemistry ... One post and (D) Lectureship in History ... One post (Lien bound but likely to be permanent). **MINIMUM QUALIFICATIONS**(For posts A,B,C & D): As prescribed by the UGC. **SPECIALISATION OR PROFICIENCY** : For (A) - First post - E.L.T./Commonwealth Literature/ Eighteenth Century English Literature. Second post - Any branch of the subject. For

(B) - Old and Middle Bengali Literature/Sanskrit Aesthetics. For (C) - Physical/In-organic/Organic/Nuclear Chemistry. For (D) - Any branch of the subject other than Ancient Indian History. Prescribed application forms with UGC's prescribed qualification may be obtained from Rajbati, University of Burdwan personally on payment of Rs.10/- in Cash at the University Sales Counter from 11 a.m. to 12 noon on Saturdays and from 11 a.m. to 1-30 p.m. on other working days or by sending a self-addressed stamped (Rs.2/-) envelope (11" x 9") accompanied by Crossed Indian Postal Order of Rs.10/- drawn in favour of the Finance Officer, University of Burdwan. The choice of the Selection Committee may not necessarily be confined to those who apply formally for the posts of Readership. Those who applied earlier for the first posts of Readership in English in response to advertisement No.10/90-91 dated 12.12.90 need not apply afresh. Last date for submission of application to the Registrar, University of Burdwan, Rajbati, Burdwan-731 104 with requisite fee of Rs.5/- is September 14, 1991.

REGISTRAR

## INDIAN COUNCIL OF MEDICAL RESEARCH

(Advt. No. 8/91 Hqrs. office)

Applications are invited upto 20.9.91 for a post of Research Officer (Stat.) reserved for SC (ST Candidate will also be considered if suitable SC Candidate is not available) in the scale of pay of Rs. 2200-75-2800-EB-100-4000 plus usual allowances admissible to Central Govt. employees stationed at New Delhi.

**Qualification & Experience: Essential :** 1st Class M.Sc in Statistics or Mathematics.

**Desirable :** (a) Three years experience of working on interactive computer systems using Data base packages. (b) Training in programming in: FORTRAN/BASIC & COBOL from a recognised institution.

**Job Description :** (i) Assisting in the scrutiny and coding of the extramural research proposals received by the ICMR: regular updation of the information system, scrutiny of reports generated by the MIS, Statistical analysts and Presentation of data using the information available with the system.

(ii) Assisting the Asstt. Editor/Editor-in-Chief, in the statistical scrutiny and checking of manuscripts submitted to the Indian Journal of Medical Research.

**Age:** Below 45 years. SC/ST candidates allowed relaxation in accordance with Govt. of India rules.

Benefits of pension admissible. Private practice is not allowed. Non practising allowance as per rules of the Council is admissible to medical graduates only. Candidates called for personal discussion for the post will be paid second Class rail fare by the shortest route on production of documents.

Applications from employees working in Central/State Govt. Public Sector Undertaking and Govt. funded research agencies must be forwarded through proper channel.

Application forms and other details can be obtained from the office of the Director General, Indian Council of Medical Research, Ansari Nagar, New Delhi - 110 029. Application duly completed should be sent to the Director General, Indian Council of Medical Research, Ansari Nagar, New Delhi-110029.

Incomplete and late applications will not be entertained.



# NATIONAL INSTITUTE OF IMMUNOLOGY

SHAHID JEET SINGH MARG  
NEW DELHI-67

(AN AUTONOMOUS RESEARCH  
ORGANISATION, FUNDED BY  
DEPARTMENT OF BIOTECHNOLOGY,  
GOVT. OF INDIA)

The Institute invites applications from highly motivated, creative and productive scientists for the following posts. These posts can be offered in any one of the following pay scales depending upon qualification and experience.

1. Rs. 2000-60-2300-EB-75-3200/- (Total emoluments at the minimum of the scale is Rs. 3,570/-)
2. Rs. 2200-75-2800-EB-100-4000/- (Total emoluments at the minimum of the scale is Rs. 3,872/-)
3. Rs. 3000-100-3500-125-4500/- (Total emoluments at the minimum of the scale is Rs. 5,230/-)
4. Rs. 3700-125-4700-150-5000/- (Total emoluments at the minimum of the scale is Rs. 6,385/-)

## 1. Name of the post : Pharmacologist/Pharmacist - 1 post

**Job Requirements :** To conduct toxicology studies, liaison with other collaborating institutes and centres in conducting such studies; to prepare documentation and liaison with the Drugs Controller.

**Qualifications & Experience :** M.D./M.Pharm or Ph.D. with experience in Pharmacology/toxicology & familiarity with Drug regulatory procedures.

## 2. Name of the Post : Staff Scientist (Vaccinology) - 1 post

**Job Requirements :** Preparation of vaccines on pilot plan scale, maintenance of master and seed stocks, quality control, Standardization and testing of vaccines developed at the Institute.

**Qualifications & Experience :** Ph.D or M.Sc. in Biotechnology, Microbiology or related sciences with experience in vaccinology, microbial and tissue culture, bioassays.

## 3. Name of the Post : Manager (Technology) (Rs. 3700-125-4700- 150-5000/-) /Deputy Manager (Technology) (Rs. 3000-100-3500-125-4500/-) depending on suitability of the candidate.

**Job Requirements :** To handle the work related to the patenting of inventions at the Institute i.e. drafting patent applications including specifications, filing of patent applications in India and abroad.

Maintenance of patents, renewal of patents, liaison with patent attorneys.

To handle responsibilities for Transfer of Technology developed at the Institute.

Realization of lump sum premium and royalties receivable from Industry.

Disbursal of income, earned from the Royalties/Patents as per the approved rules.

**Qualifications & Experience :** The incumbent should be Law Graduate preferably with Science background or with qualification such as B.Com with experience in Industrial Liaison and Management.

**Desirable :** Persons having experience in handling above type of responsibilities in a Research Organization or in Pharmaceutical industry will be preferred.

## 4. Name of the post : Staff Scientists (Development of Vaccines and Drug Delivery Systems -2 posts)

The project aims to develop biodegradable polymers for sustained or pulsatile delivery of vaccines.

**Qualification & Experience :** M. Tech or M.Sc. in Polymer Chemistry or M.Pharm/Ph.D.

Those with experience in industry or research in the field of Controlled drug delivery systems will be preferred.

## 5. Name of the Post : Staff Scientist - 2 Posts

**Job Requirements:** a) To conduct semen sexing studies by separation of X & Y spermatozoa. To construct DNA probes; standardize; for ruminant embryo sexing using PCR.

b) To prepare different gene constructs, characterize them, microinject them into pronuclear stage mammalian embryos and test their incorporation and expression.

**Qualifications & Experience :** Ph. D. in Life Sciences, Biotechnology, Biochemistry or Animal Genetics with consistently good academic record with three years of experience in the area of Molecular biology and in genetic manipulation of eucaryotes. Previous experience in handling and micromanipulation of embryos is desirable

## 6. Name of the Post : Staff Scientist - 2 Posts

**Job Requirements :** Protein Conjugation, Quality control of vaccines, their preparations as per GMP/GLP norms.

**Qualifications & Experience** Ph.D/M.Sc in Life Sciences with experience in Protein Chemistry with preferable experience in quality control of vaccines or Phar-

maceuticals.

## 7. Name of the Post : Staff Scientist - 3 Posts

**Job Requirements (a&b) :** To continue to the development of recombinant anti-hCG vaccines and to evaluate their efficacy, safety including toxicological studies.

(c) To study the bionutralization capacity of antibodies against hCG & LHRH.

**Qualifications & Experience (a) :** Ph.D. or equivalent in Molecular biology preferably with experience in Genetic Engineering and Virology.

(b) Ph.D or equivalent preferably with experience in Veterinary Science and tissue culture and with familiarity in work of growing, maintaining avian pox virus.

(c) Ph.D/M.Sc in Life Sciences with experience in immunoendocrinology or related subject.

## 8. Name of the Post : Staff Scientist - 1 Post

**Job Requirements :** To synthesize peptides, their purification and analysis.

**Qualifications & Experience :** Ph.D in Chemistry or Biology/M.Sc with atleast 3 years of experience in Peptide synthesis.

## 9. Name of the Post : Staff Scientist (Electron Microscopy) - 1 Post

**Job Requirements :** To participate in ongoing Research Projects mainly in the field of Re-Productive Immunology requiring immunoelectron microscopic studies in addition to managing electron microscope facilities.

**Qualifications & Experience :** Ph.D or Masters degree in biological sciences and practical experience in microscopy especially immuno electron microscopy and cell culture techniques. Research experience in the field of Reproductive Immunology will be desirable.

## 10. Name of the Post : Research Associate - '1 Post (for developing immuno-diagnostic methods for early diagnosis of pregnancy in cattle and buffalo)

**Pay Slab :** Rs. 2700-100-3200/- (Consolidated) plus HRA as per rules.

**Job Requirements :** To develop a progesterone based immunodiagnostic kit, standardization and testing, quality control.

**Qualifications & Experience :** Ph.D in Life Sciences or M.Sc/MVSc in Immunology or Biochemistry. Experience in the field of immunization of animals, generation of monoclonal antibodies, setting up of radioimmunoassays and enzyme linked immunoassays, column chromatography will be desirable.



11. Name of the Post : Research Associate - 1 post (for recombinant baculovirus constructions)

Pay Slab : Rs. 3200-100-3700/- (Consolidated) plus HRA as per rules.

Job Requirements : To assist in recombinant baculovirus constructions and routine molecular cloning experiments, maintenance of insects and larval cultures.

Qualifications & Experience : Ph.D in Life Sciences/Biotechnology experience in recombinant DNA research. Those with M.Sc with Biotechnology or with any discipline can also be considered with a lower start in the pay slab.

**Note:**

1. Except posts at Sl.No.1, 2 & 3 rest all are project positions and are tenable for the duration of the project. Appointment will be made initially on contract for a period of five years or till the duration of the project whichever is earlier. For posts at 1,2 & 3 appointment will be initially on contract basis for a period of five years, with probation period of two years. Further continuation of appointment will depend on the performance during this period of 5 years.

2. The pay, allowances etc are admissible as per Central Govt. norms. Other benefits include CPF, Medical Reimbursement, LTC, Bonus etc., as per rules of the Institute.

3. Applicants should indicate the scale of pay in which they wish to be considered. Higher start in the given scale may be given to deserving candidates. Possibility also exists for taking a candidate on deputation.

4. Qualification/Experience may be relaxed at the discretion of the Institute.

5. Person working in Govt./Public Sector/Autonomous Bodies should apply through proper channel or produce "No Objection Certificate" at the time of interview failing which they will not be interviewed.

6. Candidates should indicate name and addresses of three referees in responsible position who can comment on their suitability for the post failing which their application will be considered incomplete.

7. Application on a plain paper, with complete details of qualification, experience indicating names of Organizations served, with period, salary drawn, copies of testimonials and names of three referees should be sent to the Administrative Officer within 15 days

from the publication of this advertisement. Application must be accompanied with crossed Postal Order of Rs. 10/- drawn in favour of the Director, National Institute of Immunology. SC/ST candidates are exempted from payment of application fee. However such candidates should clearly mention the category they belong to and attach documentary proof thereof.

8. Reservation for SC/ST candidates as per rules.

9. Candidates are required to apply separately for each posts.

10. It will not be obligatory on the part of the Institute to call every candidate who possess the essential qualifications.

11. No. of posts may change and it is not necessary to fill any/all of the advertised vacancies. Recruitment shall be need based and the advertisement is no commitment.

12. In case of non availability of candidates with requisite expertise, the posts may be filled up in lower grade at the discretion of Institute.

13. Outstation candidates called for interview may be paid single second class railway fare to and fro by the shortest route on production of proof of the same.

Applicants should clearly mention the Sl.No. of the post applied for on the top of the Envelope. Late and Incomplete applications will not be considered.

**ANDHRA PRADESH  
AGRICULTURAL UNIVERSITY  
ADMN. OFFICE: RAJENDRANAGAR  
Hyderabad-500030  
Advertisement No.2/RC/91, Dt.12-8-1991**

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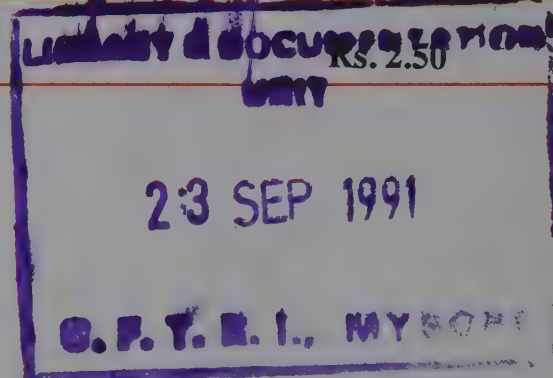
**REGISTRAR**



# University News

ISSN-0566-2257

MONDAY, SEPTEMBER 9, 1991



**Your Mother Tongue is Your Best Tongue**



**Focus on Educational Administration**



**Adult Education in India**



**Logic and Modern Science**



**Computer Applications in  
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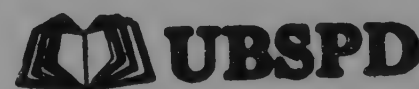
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# UNIVERSITY NEWS

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## IN THIS ISSUE

Improving Countrywide Classroom Programmes	5
The Registrar of an Indian University	6
Focus on Educational Administration	8
Adult Education in India	9
<b>Convocation</b>	
Central Institute of Higher Tibetan Studies, Sarnath, Varanasi	11
<b>Campus News</b>	
Computer Applications in Social Sciences	13
Afro-Asian Book Council	13
Bio-Tech Information Sub-Centre	14
<b>Agriculture</b>	
Workshop on Rabi Fodders	15
Improving Academic Standard at HAU	15
<b>News from UGC</b>	
Countrywide Classroom Programme	16
SAARC Fellowships and Scholarships	17
<b>News from Abroad</b>	
Bridging the Academic/ Vocational Divide	17
Centre for Study of STDs	18
Research in Progress	20
Theses of the Month	21
Advertisements	24

Opinions expressed in the articles  
are those of the contributors and do  
not necessarily reflect the policies  
of the Association.

Editor :  
SUTINDER SINGH

# Your Mother Tongue Is Your Best Tongue

## Tagore's Perception of the Role of the Mother Tongue in Education

Shivendra K. Verma\*

A 'surface' analysis of Tagore's work may give us the impression that there are different Tagores – a poet, a dramatist, a novelist, an actor, a composer, a painter, an educationist, a prophet and a philosopher. A deep and polyparametric analysis of his work, however, reveals that there is only one Tagore, a lover of man with a capital M and of nature with a capital N. The central message underlying his poetry, drama, novels, short stories, paintings, and his concept of education is : "we must emancipate Man from the meshes that he himself has woven round him...The butterfly will have to be persuaded that the freedom of the sky is of higher value than the shelter of the cocoon"(Tagore, 1921, pp 127-128). What we wish to emphasize in this paper is that Tagore's literary, educational, social, political and religious thoughts emanate from the same mind that is reflected in his creative portrayal of man's joys and sufferings, his conviction and faith. Tagore's vision of 'what a piece of work is man!' is embodied in his writings and concretized in Santiniketan, Sriniketan, and Visvabharati.

The focus of this paper is on Tagore's perception of the role of language in education. "Language is central to the whole process of education and is the principal means of cultural transmission. It is also a very explosive tool and hence needs to be handled with care and understanding. In the growth of human beings as social beings, language has a very important role to play. It is through language more than any other means that experience is recorded, interpreted, and extended. This assumes a special significance in a multilingual, urban setting in which it is not simply a problem of language choice; it is also a question of language switch : what to say when and how and in which language. India has a rich repertoire of languages and language varieties. The success of learners will depend to a very great extent on their ability to switch their linguistic gears as many times as they play different personal, interpersonal, and institutional roles in different settings. They will have to 'plan' their language choice and language use in terms of the topic of discourse, addresser-addressee relationship, and socio-cultural setting"(Verma, 1988-89, pp41-42).

The questions that we have to examine in a multilingual setting are :

- a) What should be the medium of instruction at the primary, secondary and tertiary levels?
- b) How many languages should be taught at the primary, secondary, and tertiary levels?
- c) Which combination or ordering of languages can give us access to the knowledge we seek, help us (i) express our feelings and ideas, (ii) achieve national integration, and (iii) move up the social and economic ladder?
- d) Does the mother tongue or first language (L1) have any significant role to play in developing human beings?

\*Director, Central Institute of English and Foreign Languages(CIEFL),  
Hyderabad-500 007.



Tagore has examined these questions carefully and stated emphatically that the best language of education for human learners is the language of his family and surroundings -- his mother tongue or effective 'first language'. He fought for Bengali at a time when the prestige of English had grown supreme, and Bengali was believed to be too undeveloped to be the vehicle of western thought. In his book, *The Centre of Indian Culture*, he has made the following points :

a) For the perfect irrigation of learning, a foreign language cannot be a true medium ... When we are compelled to learn through the medium of English, the knocking at the gate and turning of the key take away the best part of our life. (20-21)

b) What a terrible waste of national material to cut off all higher educational facilities from the thousands of pupils who have no gift for acquiring a foreign tongue, but who possess the intellect and desire to learn.

I know what the counter-argument will be. Men will say: "you want to give higher education in the vernaculars, but what about the textbooks?" I am aware that there are none. But unless higher education is given in the vernacular languages, how are textbooks to come into existence? We cannot very well expect a mint to go on working, if the coins are refused circulation". (23)

c) The diversity of our languages should not be allowed to frighten us; but we should be warned of the futility of borrowing the language of our culture from a far-way land, making stagnant and shallow that which is fluid near its source.(27)

d) For the present, we have sorrowfully to acknowledge the fact that, English being our court language, it acts like an artificial tariff, gradually driving away our mother tongue from our life of culture into the insignificance of domestic use. (128)

It is clear from these four extracts that Tagore attached a lot of importance to the primacy of the use of the mother tongue as the medium of instruction, for he felt that the best way of understanding the universe around us and of expressing our experiences was in terms of the mother tongue. This point has been made again and again in the documents produced by the Unesco and the Government of India. The Education Commission in 1902 recommended 'mother tongue' as the proper medium of instruction for all classes upto the higher secondary level. According to the report of the Secondary Education Commission (1956) "learning through the mother tongue is the most potent and comprehensive medium for the expression of the student's

entire personality". The Unesco accepts the promotion of mother tongue education as a matter of priority. The Calcutta University Service Commission 1919 recommended that the medium of instruction for most subjects upto the High School stage should be the "Vernacular". It can and should be used as the medium of instruction at all levels. What is important in this context is to have a clear understanding of the notion: 'mother tongue' for "my mother tongue may not be my mother's tongue". "It suggests that the standard definition of the mother tongue, the language first learned in childhood, may be grossly inappropriate for some sociolinguistic settings. What is important here is not the principle of precedence in terms of learning (i.e. language first learnt is the mother tongue), but the principle of domain-determined use. If a person uses language 'A' in most of his personal and interpersonal domains, then language 'A' is his effective mother tongue or L1". (P.87)

Tagore believed that his prior grasp of Bengali had actually made it easier for him to learn a foreign language like English. A close and careful study of the mother tongue or L1 facilitates the learning of a second/foreign language. Tagore, like modern linguists, maintained that one's mother tongue is as powerful as any other tongue. One of the remarkable features of human languages is their creativity -- the power to generate new linguistic patterns which express new thoughts and are appropriate to new situations. It is therefore futile to make a distinction between "big languages" and "small languages". "All human languages have the potential for being developed for all the purposes that the human society and the human brain can conceive. They grow & develop by being made to function in newer contexts and newer interactional settings. What our so-called 'experts' have called an undeveloped language is a language that has not been used in all its functions. An undeveloped language is a language that has been deprived of its right to perform certain functions in its own society. The history of languages demonstrates convincingly that there is no such thing as an inherently handicapped language. There is no such thing as a language more suited, by its nature, to science and technology. We would like to maintain that any language is as good as any other language in the sense that every language is well adapted to the uses to which the community puts it". (Verma, 45-46)

Tagore's message for us is : "Use your mother tongue in a variety of situations. It will enrich its resources and meet your demands. It will generate new types of need-based materials. It is a fallacy to say that a language should first be 'developed', and then be put to use in new



domains. In fact, a code's capacity can be elaborated by making it function in new situations. "The processes of shaping a language to meet new communicative needs involves borrowing words from other languages and also extending and modifying the use of existing lexical items. It has been said again and again that English has a large stock of words and phrases to express complex and subtle notions in the areas of science, law, administration, trade, and commerce. It has a vast body of literature on these disciplines. The Indian languages do not have such a body of literature and a network of words. English therefore is a developed language whereas the Indian languages are not. We do not believe in sub-categorizing languages into 'developed', 'under-developed', and 'developing' languages. Our assumption is that every language has a built-in potential for expanding its lexical resources and thereby fulfilling the communicative demands of the people who use it" (Verma, 1985, p.2). No one should therefore be made to feel that his mother tongue is 'no good', for "a speaker who is made ashamed of his own language habits suffers a basic injury as a human being; to make anyone, especially a child feel so ashamed is as indefensible as to make him feel ashamed of the colour of his skin" (Halliday, et al., 1964, p.105). Speaking at Rajshahi in 1892, Tagore emphatically stated that we must develop an educational system for the common man through the medium of Bengali. English, he felt, had an important role to play in education in India but it must not be used to play the role of the mother tongue. In his well-known essay *Sikshar Herfer* published in 1893 he answered in advance most of the arguments against a change in the medium of instruction — the absence of textbooks, the allegedly irreplaceable role of English as our window on the outside world. He pointed out that textbooks required only a serious and sincere effort and that the abandonment of English as a medium of instruction did not in the least contradict the study of English as an invaluable foreign language" (Sarkar, 1973, p153). In February 1937 Tagore delivered the Convocation address of Calcutta University in Bengali. It was the first time in the history of Calcutta University that the Convocation Address was delivered in Bengali and not in English. Tagore used the occasion for a magnificent plea for the use of the mother tongue as the medium of education. No education, he felt, could be said to be creative unless it was given to the child in his or her mother tongue. "Learning should as far as possible follow the process of eating. When the taste begins from the first bite, the stomach is awakened to its function before it is loaded, so that its digestive juices get full play. Nothing like this happens, however, when the Bengali boy is taught in English. When one is choking and spluttering over the spelling and grammar, the in-

side remains starved, and when at length the taste is felt, the appetite is vanished" (quoted by Sarkar, 1990, p65).

Tagore, as has already been stated, was not opposed to the teaching and learning of English. What he did not like is making English the medium of instruction, for he believed that the mother tongue was the best and most powerful mode of expression of the thoughts, emotions, and desires of children in India. English can and should be used as a second window on the expanding universe around them. In a multilingual setting, the mother tongue should come first and then the other tongue in terms of their roles and functions. To Sadler Commission in 1917, when they sought the poet's views, Tagore said: "Great care should be taken in teaching English as a second language. But in schools, colleges and at universities the medium in all subjects should be the mother tongue" (Sarkar, 1990, p68). Tagore was in favour of giving education through the mother tongue not only at the school level but even at the higher levels. He was of the view that "if education does not enter into the deeper strata of the society and does not attain permanence through mingling with the living stream of the mother tongue, then, however much it may bubble up and dance like foam on the surface, it can only become an object of temporary beauty but can never become a lasting fountain of life". (Rabindra Rachnavali, vol XII, p618). He referred to different types of difficulty in adopting English as our effective first language in his book *Towards Universal Man*. Firstly, we cannot express our thoughts and experiences in this language the way we can do it in our mother tongue. Secondly, its linguistic patterns are different from those of our mother tongue. We have therefore to learn a new set of patterns. Thirdly, the culture and thought-patterns underlying English are different from Indian culture and Indian ways of chopping up the universe. Fourthly, we do not have qualified teachers to teach English as L1 in the Indian setting. "A Bengali", therefore, "can never acquire so close and intimate a knowledge of English as to make it the medium of a spontaneous literary expression. Even if he were a master of the English language, he would not be able to make it a live instrument of Bengali thought and feeling" (Tagore, printed in 1961, p47). According to Tagore, it was the suppression of the mother tongue that led to educational anaemia in Ireland. "Ireland, which had become a focal point of European culture during the Dark Ages owing to their preservation of Irish language, had to fall on bad days after the conquest of Ireland by Queen Elizabeth. The Irish schools began to be shifted to Anglo-Saxon pattern after this event and the result was just what could be expected. Mental numbness



spread all over the country. Irish-speaking boys, who entered the schools with their intelligence and curiosity alive, left them as mental cripples, with a distaste for all study. The reason was the method was machine-like and the result had to be parrot-like". (Quoted by Salkar, 1990, p68). This point was reinforced by Mahatma Gandhi in 1937, writing in *Harijan* (October 2 1937), on the eve of the Wardha Conference, he observed : "The excessive importance given to English has cast upon the educated class a burden which has maimed them mentally for life and made them strangers in their own land" (Quoted by Sumitra Roy-Choudhry, 1982, p126).

"The process of displacing the vernacular has been", he said, "one of the saddest chapters in the British connection... Of all the superstitions that affect India, none is so great as that a knowledge of the English language is necessary for imbibing ideas of liberty, and developing accuracy of thought"(Gandhi, 27-4- 1921, p130). Making his position regarding the role of English in India clear, he said : "I would have our young men and women with literary tastes to learn as much of English and other world languages as they like, and then expect them to give the benefits of their learning to India and to the world, like a Bose, a Roy or the Poet himself. But I would not have a single Indian to forget, neglect or be ashamed of his mother tongue, or to feel that he or she cannot think or express the best thoughts in his or her own vernacular". (Gandhi, 1-6-1921 pp170-71). He therefore said emphatically : "I must cling to the mother tongue as to my mother's breast". The Calcutta University Commission, the Radhakrishnan Commission the Mudaliar Commission and the Kothari Commission are unanimous in recommending the use of the mother tongue as the medium of instruction. This is what Tagore advocated firmly all his life. His writings present the vision of India.

"Where the mind is without fear and  
the head is held high;  
where knowledge is free; .....  
.....  
.....

Where words come out from the depth of truth";  
(From *Gitanjali* poem no XXXV)

Tagore did not believe in making any sentiment-generated distinctions between the East and the West. He wanted his educational institutions to represent the confluence of the ideas of the East and the West. "Let us", he said, "be rid of all false pride and rejoice at any lamp being lit at any corner of the world, knowing that it is a part of the common illumination of our

house"(Tagore, March 13, 1921, pp134-37). He was against the use of English-based western education as a class-marker, for he felt that "Just as savages take pride in painting & tattooing their bodies, hiding the glow of their natural health, so we go strutting about, our bodies smeared with an alien English learning which has hardly any connection with the inner reality of our life" (Quoted by Kriplani, 1962, pages 191-2).

All his life Tagore worked for giving to his motherland an open, national educational system for all through the medium of the mother tongue of learners – a system of education not imported readymade from the West but a system which had deep roots in the Indian soil and its glorious culture, a system which believed that effective training in the use of the mother tongue is the most potent line of defence against pollution in the human environment.

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## To Our Readers

Knowledgeable and perceptive as they are, our contributors must not necessarily be allowed to have the last word. It is for you, the readers, to join issues with them. Our columns are as much open to you as to our contributors. Your communications should, however, be brief and to the point.



# Improving Countrywide Classroom Programmes

D.R. Goel\*

Kiran Jaiswal\*

The viewers gain significantly through the Countrywide Classroom programmes. So, it is desirable that the frequency of the programmes should be increased. To actualise this objective the existing infrastructure in terms of the production and research units, such as, EMRC, MCRC, TTTIs, and interface, namely, UGC INSAT-TV Cell should be expanded. Additional time slots could be allocated to increase the frequency of Countrywide Classroom programmes. Progressively, it will be better if a separate channel is allocated for the ETV programmes.

The Countrywide Science TV programmes are effective for students. Some of the programmes are equally effective for both the English and Hindi medium students. A large number of programmes are in favour of the English medium students. Some of the programmes are in favour of Hindi medium students. As the programme is for multilingual groups, the language should be such that it is intelligible to all. A transponder at the satellite is desirable which would dub the programmes in different languages. If it is not feasible and the programmes continue to be in English language then the captions should be in Hindi or regional languages, so that, the programmes are equally intelligible to different lingual groups and there is no achievement difference due to language lag.

There is a need to identify suitable topics for the Countrywide Classroom (CWCR). Different need based mediagenic repeat value topics have to be identified with the help of researchers, pedagogists, teachers, artists and producers. Also, more meticulous mechanism has to be developed for identification and utilisation of the TV Talent. The CWCR programmes are quite effective, but still there is scope for improving upon the quality of these programmes in terms of voice and sound, visual, view composition etc.

The Countrywide Classroom programmes have to be presented more carefully. The different pedagogical fields, such as, methods, media, techniques, devices, aids, and formats etc. have to be well selected. While producing the Countrywide Classroom programmes the production team should observe the appropriateness of voice quality, sound, visuals, sequence of visual presen-

tation, synchronisation of sound and visuals, colour-hue, brightness and saturation etc. There is a need of still more focus on capsule composition, shooting location, speed of delivery of the contents, time duration of the programme, exposure time of the captions, size of the letters, and view composition. What is required should be focused and not the noise.

It is evident through the study (Jaiswal, 1991)<sup>1</sup> that the contents of the CWCR programmes are well developed. The programmes are presented well. The viewers gain through these programmes significantly and have mostly positive reactions towards them. But, however, perfect a system there is always scope for adaption, correction, and perfection. Now the questions that arise are — Can the CWCR programme meet the needs of multilingual, multicultural, multilevel undergraduate population of India? Can the CWCR programme convince the college and university administrators and teachers of its potency, so that the programme is accepted and integrated with the institutional schedules? Can the CWCR programme improve upon its contents and presentation, so that, it is more suitable, appealing and effective? Could education as a system be more resourceful so as to utilise the strengths of educational resources like CWCR programmes?

In mass communication one of the major difficulties is how to make the message impersonal. How to match the programme to heterogeneous groups? However perfect, the ETV programme is rarely self contained. The viewers want additional treatment for various reasons. After viewing the programme the talk-back session could be conducted, wherein, the questions raised by the persons can be responded to. If video recording facility is there then the CWCR programme may be recorded and played back in the interactive mode, that is, whenever there is a question the tape may be stopped, question responded before proceeding further. The teacher should try to overpower the limitations of the CWCR programmes.

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\*School of Education, Centre of Excellence,  
Devi Ahilya Vishwavidyalaya, Indore-452 001.



# THE REGISTRAR OF AN INDIAN UNIVERSITY

T. Sivasankaran\*

The most important administrative officers of the university are the Vice-Chancellor and the Registrar. The academic work will be taken care of by the Heads of Departments and the examinations by the Controller of Examinations. The Vice-Chancellor and the Registrar are the men in continuous motion, in daily contact, on the job in busy days of duty, on hand where the decisions are taken. The genesis of the university policy is with them; they contribute much to the growth and development of the university.

In an Indian university, the Vice-Chancellor is the prime policy-maker and the Registrar plays the role of an important officer of execution. He is responsible for making the university apparatus move. He assists the Vice-Chancellor in running the administration, scans the papers, signs bonds and cheques, answers the phone, reads through the stacks of files on his table and around him, often sighs under the heavy centralised load of work. He is a 24 hours servant of the university always at his job early and late, going through the files even at home. He is an officer appointed by the Syndicate usually given more than full time work. Experienced Principals, Senior academicians and senior non-academic officials who have served the university for several years are generally appointed as Registrars. Academic people are given preference in this appointment. He is paid a good salary, given some perks and has a high standing in society.

The Registrar's onerous responsibility is the day-to-day administration of the university. His duties are innumerable : answering enquiries, writing letters and carrying on the correspondence, releasing advertisements, preparing admissions, arranging selection, ordering supplies, collecting fees, making payments, signing cheques, signing diplomas and certificates, conducting elections to the authorities, preparing the budget, raising funds, managing the finances, supervising the university office, fixing the duties of the subordinate officers and assistants, ordering payment to the establishment, taking care of the Guest House, supervising the construction of building, holding conferences, arranging of meetings of Boards of Studies for prescribing textbooks, granting affiliation to new colleges and new courses, arranging inspection of colleges for maintenance of standards, etc., etc.

The Registrar is the custodian of all records of the university, the common seal, all its properties; the files,

*\*Principal, Saraswathi Narayanan College, Madurai-625 022 & former Registrar, Madurai Kamaraj University.*

the records, the dossiers, the documentation are all within his purview. He has to maintain a register of graduates, all postgraduates, all doctorates, all donors and all endowments. In all legal matters, he represents the university in the court, executes all contracts on behalf of the university, maintains all its investments. If we look at his multifarious duties, it is evident that he is always tight at his desk closer to files than to people. He should always be at home with all procedures, arrangements, ordinances and statutes. In short, he is the pivot of the university machine.

The Registrar has a special and close relationship with the important authorities of the university : the Syndicate and the Senate. He is the Secretary of the Syndicate and records all minutes of its proceedings. He maintains a record of the reports, recommendations and the resolutions of the authorities and keeps them ready for future reference.

The Registrar can work effectively only with the approval and confidence of the Vice-Chancellor. Many important things are usually left to the Registrar even by an alert Vice-Chancellor. They are to meet each other often for exchange of information and decisions on university affairs. The Vice-Chancellor and the Registrar must work together and have total trust in each other failing which the University will suffer. The Registrar is sure to have his own ideas, his own convictions but they are sometimes blunted by the nature of his office. He does not speak in public in the meeting of the Senate, and the Academic Council and he is not given an opportunity to express his views. He is only a mouthpiece of the decisions taken by the Syndicate and the Vice-Chancellor. The policy and the initiative must be left to the Vice-Chancellor, but the prompt execution of the decisions of the Syndicate and the Vice-Chancellor must be his prime concern. One can even say in the Indian context the people, the non-teaching staff of the university have to lean heavily on the Registrar whose work is not to innovate but to keep things in proper shape and get things done efficiently. As a man with experience and potentialities, he is an adviser even to the Vice-Chancellor because he is the man always on hand.

A Registrar is most properly a recorder of events and activities and an observer of rules and regulations and a listener to various views of the authorities. He should be very persuasive and see that enough agreement is reached among the diverse interests of the university. The Registrar does play a key role in the administration of the university by being almost ever present in the



campus. He is always encircled by piles of files and some of them rumpled and frayed with use and constant handling. He becomes so familiar with his files that he can scan through them and make quick flick of initials and signatures. Professors, PAs, assistants, superintendents move in and out of his room delivering and removing papers, conveying scraps of information and making requests of assorted varieties. Sometimes the Registrar will have to perform "Ashtavadhana" (doing eight things at a time). He should be explaining his difficulties to a member, he will be signing a few important and many trivial documents in front of him. He will be answering phone calls. Though there is a seeming disorder or a half-hearted attention and hurriedness in the air, a man who happens to be an Indian Registrar, is always reserved but confident. He carries the assurance of the authorities and is quite at home with the files.

Almost everything in the university passes across his table at some time or another. Not a thing is discarded and is screened. There is no intermediary to decide what is important enough to go to him. He knows thoroughly his office, its strength and weaknesses. He is always aware of the limitations of the subordinate officers who do not wish to dispose of their work, on their own. The set up of the university is such that almost all the officers there would like to have the signature of the Registrar in order to play safe. So his job is a tiring and time-consuming which involves careful scrutiny and continuous supervision. He listens in on and records work of all the authorities and he is an ever-present observer, a silent man who watches, learns and communicates. It is expected of a Registrar not to disclose too much because he is occupying the university's second highest practical office. His reticence should be in sharp contrast to the Vice-Chancellor's expansive, frank, policy-framing manner. He is usually jealous of the reputation and high standards of the university. He will make no public criticism, admit no defects, unless they are very serious, in order to protect the name of the institution. Usually he is one of the informed men on university affairs but the most difficult to get information from. His reticence is always a virtue.

Normally an Indian Registrar is more an administrator and has only a routine contact with most of the staff and students. But now-a-days there are Registrars with an academic touch who would like to have an exchange of ideas with the academic men on the campus. Sometimes the Registrar is thoroughly a non-academic and completely an administrator. On such occasions, there is not much respect between the Registrar and the teachers as there is a disinterestedness in each other's work. A Registrar normally makes himself available to the senior staff, faculty members and other academic officers on matters of official business. The top men (Heads of Departments) insist on dealing with him personally more often without prior

appointment. He tries his best to solve their problems and redress their grievances as far as he can. The delicate and important problems are passed on to the Vice-Chancellor for solutions. In times of crisis, his work becomes increasingly heavy and very difficult to handle as he does not have the position to command the influence of the state government and the top. The Registrar is in constant touch with the Vice-Chancellor as the first confidential advisor. It is this function of his by means of which he affects policy. The two talk together frequently on policies and programmes, administration, finance and facilities. It is customary for the Registrar to follow the lead of the Vice-Chancellor, discreetly to advise him in private, docilely to accept his fault in public. Usually the influence of the Registrar is strong though intricate. He has the advantage of continuity and thorough knowledge of university affairs. He travels very little and leaves the station very rarely. He looks after the routine work in the absence of the Vice-Chancellor. The great bulk of the work in the university is monotonous and repetitive. Still the morale of the Registrar is high and he quite enjoys his work in spite of his grumble about its voluminous quantity.

An educational administrator (Registrar is one) has to be an artist in human affairs. If he only deals with the files, let him go and join the department of statistics. Those who deal with the young students and mature teachers must have very large reserves of patience, understanding, love and hope. In human affairs 2 and 2 do not always make four. They may make a hundred or a zero. Routineness is a crime against education today. A dynamic educational administrator must hold the scales of justice even between teachers and the students, between the students and assistants, between students and non-teaching staff. An educational administrator has to take decisions regarding recruitment, promotion, transfer of staff. Only the job of the educational administrator is relatively bigger and more complex as he has to deal with the more numerous and more heterogeneous personnel. In all these matters, his approach should be not only justice is done but also appears to be done. He must frame fair and just rules to guide him and put a stop to any environment. One can send a teacher to his class punctually, can even make sure that he stays there for the entire period but cannot ensure that he will teach his inspired best, unless he is urged to do so by proper environment. Fool-proof methods of recruitment based on merit and fair rules of transfer and promotion can create a feeling of just treatment and give the teachers necessary fillip to do their best.

Education is nothing but humanisation and the university is the abode of unending research-teaching-research-continuum through which the understanding of the being as becoming is being perpetually deepened. It is the role of the Registrar that makes his university a truly profitable seat of higher learning and education.



# Focus on Educational Administration

Ram Kulkarni\*

In modern days the management and administration of schools and colleges has become an important issue which should be taken into consideration by all concerned persons in the field of education.

The administration of all types of educational institutions indicates that, the educational administration is a field of study as well as a field of practice. So it has become essential to study the 'educational administration' as a special subject which deserves special attention.

In the beginning of 20th century the study of educational administration emerged; first at the Teachers College of Columbia University and followed shortly thereafter by graduate programs at Stanford University, the University of Chicago and other universities.

It should be noted that, educational administration is an applied field and not a discipline. But it is also true that it is built upon a number of basic disciplines such as Sociology, Psychology, Political Science, Economics and Commerce. Since educational administration is a broad field of practice and study there are various career positions in this field. At school level, there are Principals, Supervisors, Superintendents etc. At the college level, there are Principals, Vice-Principals, Heads of the Departments, Supervisors, Shift In-Charge and many others. At the university level there are Heads of the Departments, Chairpersons of Board of Studies, Deans, Vice-Chancellors and Pro-Vice-Chancellors.

## Problems in Educational Administration

As there are problems in every field of management, there are also some problems in educational administration. These problems are too varied, too dependent on local conditions in and out of the Schools and Colleges.

The Principals or Heads of the educational institutions are held responsible to face and solve these problems. In modern times the following are the main problems faced by the Principals of schools and colleges :

- i) Social and political pressures for admission to the students,
- ii) Deciding and applying criteria for admissions,
- iii) Elections to Students Council and Gymkhana Councils,

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\*Vice-Principal, Gokhale Education Society's Arts & Commerce Night College, Gokhale Society Lane., Parel, Bombay-400 012.

- iv) Conducting examinations and maintaining discipline at the time of examinations,
- v) Conducting annual social gathering efficiently and smoothly,
- vi) To face the unions of teachers and non-teaching staff,
- vii) To deal with the social and political leaders in the society, and
- viii) To get the work done through teachers and other staff- members in the educational institution.

While solving the above problems the Principals have to apply their management skills and skills in human relations.

## Leadership Function

The Principals are the formally appointed leaders of their schools and colleges. They are the line officers in the educational system. Principals are ultimately held responsible for what happens in their schools or colleges. They are held responsible for seeing that, an appropriate learning environment is established and maintained. For doing this they must exercise leadership functions in many areas. They have to lead the teachers and non-teaching Staff members to perform the functions and duties of the school or college.

## To Enhance Teaching and Learning

The basic purpose of administration is to enhance teaching and learning process in schools and colleges. Teachers deal directly with the students so it is easy to see how they may contribute to teaching and learning. But the administrators of the schools and colleges may not directly deal with the students. So it is comparatively difficult to evaluate their performance.

The Principals have to depend upon the teachers and other employees in the school or college. So the success of the administration depends upon the quality of Staff members as well as the leadership abilities of the Principals.

## Human Relations Skills

The Principals should possess the human relations skills for performing their functions well. At times they must work with the teachers, at times with the students, at times with parents, at times with government officers and at times with the interest groups in the community.

In order to deal with all these sections of the Society successfully the Principals are required to possess the knowledge and skills of human relations.

If the above given points are considered, it will definitely help the educational administrators to assess the nature of administrative work realistically.



# ADULT EDUCATION IN INDIA

## A Futuristic Perspective

Raja Muthirulandi\*

Since independence our country has registered phenomenal growth and expansion in the field of education. The percentage of literacy is stated to have improved from 16.67% in 1951 to 36.27% in 1981. However, as highlighted by the 'National Policy on Education - 1986 - Programme of Action' (NPE-POA) 'in absolute numbers, illiterate persons have (only) increased during this period from 300 million to 437 million'. The fact that the number of illiterates now are more than the number at the time of our independence, shows that a faster growth of our population has pushed the country further behind in its endeavours to reach universal literacy.

In our country, the adult group (15-35 age group) constitutes the bulk of the population. The estimate for 1991 was that there would be around 235 million in the 15-35 age group. The National Programme of Adult Education (NPAE), envisaged as a phased, time-bound programme was expected to cover approximately 40 million by 1990 and another 60 million by 1995. This means that, even by the end of 1995, there is going to be a higher number (about 135 million) in the adult population itself remaining illiterates! In spite of the increased technology and facilities, the race between the population and our efforts to reach universal literacy is going to be continuous and unending. The present situation and trend has to be changed by our serious measures and shift of strategies.

The Acharya Ramamurti Committee's 'A perspective paper on Education' (PPE) has taken cognisance of the situation of the 'unending race' and declared that 'attempts at emphasizing adult literacy (alone) as such constituting (adult) education would (only) be misplaced'. Therefore, the PPE strongly 'underscored the need to redesign adult education programme meaningfully.' The PPE's contention was that 'an illiterate adult is not necessarily an uneducated person'. The PPE has further argued that 'in the case of adults, inability to read and write has not necessarily meant lack of education. The illiterate may have numeracy skills

needed for life situations and sensitivity and capabilities of a higher order to cope with very difficult conditions. What meaningful programmes have to do is to develop such skills and capabilities even among illiterates'. The system of adult education as conceived and implemented today, in our country, seems to have no capacity to find solutions to the complexities of the fast changing technological age and the many dimensions the adults are now faced with. A large number of our population would be requiring adult education 'not only to improve basic skills or to receive job-training but also to help face a future that is more volatile, competitive and complex than ever before'. In such a situation, 'can status quo be the way forward?'

"There are moments of history when a new direction has to be given to an age old process" (NPE 1986) and this is significantly what we have to do in the sphere of adult education during the crucial years ahead of us in our march towards 21st century (and future!). The main programme at present is the Rural Functional Literacy Project (RFLP). If adult education has to serve the avowed purpose of becoming 'a means for reducing economic, social and gender disparities', as envisaged by the NPE, its programmes have to be directed by different strategies relevant to the development of human resources and the creation of a learning society. Mere 'tinkering with the existing situation' and 'moving forward with faltering steps and lack of faith' will not help. Indian education and especially adult education in our country needs a 'drastic reconstruction, almost a revolution'.

The developed countries have already taken note of the emerging scenario and have given the necessary reorientation to their adult education programmes. The Man Power Services Commission of England, in its document *Towards Adult Training Strategy - A Discussion Paper* (1983) has stressed the need for 'extending and improving the skills (of the adult population) to meet fast changing needs, to cope with the consequences of technological and structural change'. Germany believes that 'it is better to have unemployed skilled adults rather than unemployed unskilled adults'. The American Education and Training System, with its

\*Department of English, Periyar EVR College,  
Tiruchy-620 023.



Trade Schools etc, has 'delivered broadly educated and trained adults, constituting the work force, *willing to learn and adapt* in order to compete'. Japan considers that 'education does not abruptly cease upon leaving school or entering work'. In fact, effective adult learning begins upon entry to work, in Japan. Much of Japan's ability to adjust to change in product markets is due to the 'development of skills and competencies in the (adult) workers'. Our efforts, therefore, have to be urgently directed to bring such a 'social benefit enabling the individual to adapt positively to changing circumstances, to prepare for the new opportunities which such changes may offer and become equipped to understand and influence such changes'. Then only adult education could become an active 'agent of changing and improving our society' by also serving as the 'handmaiden of economic change' in a developing country like ours.

For many adults, training at work is the most important and substantial education they receive after school. So, adult and continuing education should include vocational training that is carried out within work situations. The idea of holding the **same** job for life is becoming increasingly untenable. Only those with greatest capacity to adapt will survive successfully. 'Those least adaptable, be it Nations or persons will fail'. Adult education programme for the future should have as its chief aim 'to prepare one for the more efficient and satisfactory performance of the activities of his life'. Continuous 'topping up' of the adult needs arising out of the newer demands in job and life should be one of the strategies for future adult education.

The curricular component and the course packages should be highly flexible, offering a wide range/variety of combinations and choices suited to one's taste, cultural, economic backgrounds, station and ambition in life/job etc. Possibilities of offering trans-disciplinary programmes related to real work problems have to be increased. A 'faultless mechanism for updated need assessment' has to be developed. Adult education programmes specially designed for various target groups viz. the jobless (to fit them in specific jobs where need has been noticed); those in jobs — mid-career programmes, retraining, updating in specialist areas, acquisition of new skills/knowledge, preparation for new responsibilities etc; the citizens — to improve the quality of public and civic life and to lay the foundations of more 'intelligent citizenship' and create a 'better social order'; parents and family — to face, the problems like Drugs, AIDS etc., etc., for which they have had little or no educational preparations; Second

or Third Chance category— to those who have been evaded by early education have to be organised. It is very important that all such programmes become 'experiential' — emphasising a clear shift from 'knowing' to 'doing'. Judicious exploitation of the non-formal and distance education modes besides fuller use of the media (Radio, T.V, Newspapers) and computers have to be made for enhancing success.

The responsibility for adult education should not be left to solely rest on the government. In future, industries, institutions, universities, user-agencies, communities, clubs, social organisations, political parties, religious establishments, voluntary bodies and families have to share the responsibility in a larger measure than today. The education of the adult is not the 'end' for the individual but the 'means' to the society to advance itself. Therefore, all constituencies in the society should establish very close coordination and active cooperation for covering the different adult needs in education. All the constituents/organisations have to develop capacities for swift changes in strategies, modes, locations and contents of the programmes in order to make them efficient, relevant and easily available to the targeted group.

A common programme of adult education, for a vast country like ours — with a huge population of diverse backgrounds, will not work. The programmes have to be totally decentralised (making it group centred), deinstitutionalised (to become learner based), autonomous (for local decisions/change), and tailored to suit specific needs. Further, if real motivation in adults has to be achieved, the programmes should be such that the adult learners could see for themselves, at the earliest, the applicability of the knowledge offered, skills developed and consequential achievements in their lives/jobs. Knowledge is power. Through efficient delivery systems in adult education, we have to spread new knowledge in all existing spheres of human activity to all those who demand, desire and require. We would, thereby, be creating greater opportunities for the people for sharing the power (of knowledge and attainments). To meet the challenges of the future, the guiding principle for adult education should be that "the need for adult education and training for any individual will not be once and for all but continuing". Only a system based on such a principle would help the Indian situation, where for a very large majority formal schooling — if at all it was there — ends at the age of 16! Let us evolve such a system to enhance individual freedom enabling men and women to make their own educational choices throughout their lives.



## Logic and Modern Science

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**"The study of Logic by itself may sound like "dry as dust" material, but if a connection is made with the epistemology of physics, it takes a very different role, full of immediate relevance", said Dr. Raja Ramanna, eminent physicist and former Minister of State for Defence, Govt. of India. He was delivering the Convocation Address at the second convocation of the Central Institute of Higher Tibetan Studies (Deemed University), Sarnath, Varanasi. Excerpts**

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The nearest I can approach to being useful and show my appreciation is to bring to your attention some of the new developments in modern Physics which has a direct bearing on Philosophy. It suggests a newer understanding of the words of the Shakyamuni, even as it is preserved by various Tibetan scholars over the centuries. It is, perhaps, not a suitable subject for a convocation address, but the present situation in Science calls for a renewed study of the Buddhist logic and Buddhist ethics are of great relevance to the modern world as it includes all knowledge.

I have chosen the subject of Logic and Modern Science, as I feel our knowledge of the structure of the universe has become somewhat confused, because we have not taken a comprehensive view of metaphysics and a universal logic to be able to appreciate reality in an overall sense.

Let me recall some aspects of the history of Science which is of relevance. Galileo and Newton introduced the idea of quantification and Mathematics in the explanation of all physical phenomenon. They also believed that every thing must

possess a reality if it was to be true; e.g., the waves on water can be seen by us. The waves that transmit sound are pressure waves in the gases and other media which we can detect. The successes of the Newtonian Theory have been so striking that, that till about the end of the last century, it was considered as the last word in Science. There were one or two inexplicable phenomena as in radiation, radioactivity, etc., but generally it was felt at that time that, over a period, it could all be explained away within the Newtonian concept of the Universe.

This has not happened and the concept of the Universe seems to be radically different. These conclusions have resulted from the discovery of the Theory of Relativity and Quantum Mechanics. I do not propose to make the convocation address into a lecture on physics, but these new findings have forced us to believe in a reality which is so different that it is difficult to reconcile it with the older classical point of view. When Quantum Mechanics first came into existence and the dual nature of the matter was proposed, it seemed so strange that its validity was questioned by many distinguished scientists. Again,

however, the success of the new theories in explaining the material world, particularly the atomic world, is so striking that people accepted the inconsistencies hoping that future work would clarify its foundations. Even at that time the founders of the theory would admit that theory as such was incomplete, but would probably have to remain in this position until something better was discovered. Even after nearly sixty years, the position has remained unchanged. It is, however, interesting to note that sometimes attempts to rationalise Quantum Mechanics have taken recourse to the existence of the human mind, as a special entity outside 'Physics'. In such theories, the human mind is supreme and is an inescapable component of reality.

In recent times, many things have happened in the world which make us lean on philosophy for a proper appreciation of the universe we live in. In the last few years, our ethical standards have changed and our use of violence in non-military life has increased. The spiritual forces on which we depended for social stability have become fundamentalistic and repel a thinking citizen.

As a result of these changes in our attitudes, there has been a renewed confidence among people to consider the Buddhist moderation as a refuge for the future. While the thoughts of the Buddha can indeed help the world, it is important that our interpretation of the great words of the past has a validity spreading over all knowledge and not merely over a regime that covers a small aspect of human development. The failure of present-day ethics is due to its lack of depth. This is why simple statements like "*I will be good*", "*I will tell the truth*", by



themselves are not sufficient. They do not make any permanent mark on society, unless they are strongly supported by a philosophical basis.

During the last few decades, Metaphysics has come under questioning by several learned scholars and dismissed as something which is just "hot-air" and, therefore, does not have any practical value. The same has been said of Logic as being "dry as dust" and essentially sterile in nature. These attitudes towards Logic and Metaphysics have to be

revised, not because the great philosophers of the past made it their main support, but because the discoveries of Physics are themselves forcing the scientist to interpret their results through Metaphysics or Logic.

The Tibetan savants of the past have preserved for us some very important works of ancient times, particularly on Logic. The study of Logic by itself may sound like "dry as dust" material, but if a connection is made with the epistemology of

physics, it takes a very different role, full of immediate relevance. All this requires a deep knowledge of the older works and a deep understanding of the Sciences. It is my hope that the CIHTS, a deemed University, will supply the necessary support for a re-evaluation of the Buddhist thought and logic in the light of the requirements of Science. I see a great role for this Institute in this aspect of knowledge of the future because, if there is any religion that comes closest to Science, it is Buddhism.

## CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be Contacted
Sept. 16-20, 1991	Regional Symposium on Educational Testing	Theme : Reforms and enhancements in educational testing system, test contents and formats in a country (or region)	The National Education Examination Authority (NEEA), People's Republic of China	Mr. Yang, Xuewai, Director, National Education Examinations Authority (NEEA), State Education Commission, 30 Yu Quan Road, Beijing 100039, The People's Republic of China
Sept. 17-18, 1991	Fourth Annual Conference of the Asian Association of Open Universities	To explore the need, desirability, practicability and relevance of face to face components in Distance Education	The Open University of Sri Lanka, Colombo, Sri Lanka	Ms. C Suriyapperuma, Organising Secretary, AAOU Conference, Open University, Box 21, Nugegoda, Sri Lanka
December 9-26, 1991	Winter School on use of Statistical Software	To introduce college and university teachers to computer-oriented statistical methods and to train them in the use of statistical software packages.	Indian Statistical Institute, Calcutta	The Course Director, Winter School on use of Statistical Software, Computer Science Unit, Indian Statistical Institute, 203, Barrackpore Trunk Road, Calcutta-700 035
December 14-16, 1991	International Conference on Man & Environment	To discuss issues concerning the future of man and preservation of the unique planet earth	Motilal Nehru Regional Engineering College, Allahabad	Dr. R.K. Srivastava, Organising Secretary ICOMEN - 91, Department of Civil Engineering, Motilal Nehru Regional Engineering College, Allahabad - 211004



## Computer Applications in Social Sciences

A two week training programme on Computer Applications in Social Sciences was organised and conducted by the Centre for Social Studies, South Gujarat University at Surat. Sponsored by the Indian Council for Social Science Research (ICSSR), New Delhi, the course was particularly meant for those engaged in survey research and data processing and analysis.

The training programme was aimed at instilling skills in using computers towards designing and analysing social science data in various ways. It stressed integrated database techniques and analysis methods aided by computers. The course included lectures on introduction to computer systems, codification of data, statistical techniques, MS-DOS, and certain packages like Wordstar, Lotus 1-2-3, Dbase III +, SPSS (Statistical Package for Social Sciences) with considerable input of practical training in the Centre's inhouse computer unit.

During the first week of the training programme some of the widely used user — friendly, interactive packages were introduced and the trainees given some hands on experience of using them on personal computer. The lecture on coding dealt with the principles of codification and alternative methods and approaches and their advantages and limitations. The exercises were prepared on the basis of the Centre's own database and experiences. Lectures on data transfer and data validation and verification techniques were also arranged. A lecture on data archival

and retrieval methods was specially arranged to introduce the participants to the concept of data archive and its usefulness in social science research.

The second week was devoted to statistical techniques and the operation of SPSS. Lectures on statistical techniques covered basic methods that a social scientist should be familiar with, such as measures of central tendency, measures of dispersion, measures of association, probability, sampling, correlation, regression, T-test, ANOVA etc. Features of SPSS were explained, in the light of the Centre's own experience. Problems frequently confronted by social scientists were given priority.

About 19 researchers from various parts of India participated in the course which was directed by Dr. Vimal Trivedi.

### 'Overhaul Management System' — Kulandai Swamy

Prof. V.C. Kulandai Swamy, Vice-Chancellor, Indira Gandhi National Open University (IGNOU) said that the Management system in India should be overhauled thoroughly so that it acted as a promoter and facilitator instead of a hindrance in national progress. He was delivering the Foundation Lecture on 'Science & Society' at Andhra Pradesh Open University, Hyderabad, recently on their Decennial year.

Prof. Kulandai Swamy said that unfortunately, by some peculiar

thinking, we have come to the conclusion that courses in management offered by education institutions in India, were needed only for industries.

Taking the case of inadequate management system in the field of education, he pointed out that in India almost every one blamed the higher education system but during 1984-89, there had been an increase of 1322 colleges and 32 universities. In U.P. alone during this period, 507 new colleges were established i.e., at the incredible rate of 100 colleges every year, he said.

"We go about expanding the system merrily after condemning it in the strongest possible terms. No educationist is consulted when a university or a college is established/started. These are started on considerations that are not academic but later it is the education system of the country that is blamed," he stated.

Prof. Kulandai Swamy concluded that in fact it is our (mis) management system which is one of our major causes for failure and slow progress. He added that there must be a competent body in the state for planning and development of higher education. The establishment of State Council of Higher Education recommended in the NPE 1986, would go a long way to bring about better coordination within the state and it will be a great help to the U.G.C. for maintenance of standards, he said.

### Afro-Asian Book Council

An Afro-Asian Book Council has been set up for intra-regional and inter-regional cooperation to



realise the potential in the region for self-reliance in the field of authorship and publishing.

The Council functions as a forum for a continuing dialogue between authors, academicians, publishers, librarians and policy makers with the following objects:

- to encourage intellectuals, educationists and academicians to identify, for each country, the specific requirement of reading material for various categories of readers;
- to support and underwrite the initiative of authors to write for the scholastic and other needs of the people in their own and other similarly placed countries;
- to establish effective mechanisms for regular exchange of information about syllabi and curricula, reading needs, authors, publications, training facilities, etc. between the countries of this region;
- to augment the availability of functional and literary reading material in the Afro-Asian region, through co-authorship, co-publishing, adaptation and translation;
- to set up institutions for research and development and for financing, promoting and initially, even subsidising, the publication of locally relevant functional and literary material of high calibre at prices within the reach of the common people;
- to provide formal and informal training facilities to augment the availability of professionally competent editors, translators, book designers, visualisers, illustrators, printers, publishers and distributors;
- to facilitate a two-way flow of locally relevant and reasonably

priced books and reading material between the countries in the region;

- to review periodically the progress towards mutual cooperation in matters of promoting authorship and books, and upgradation of technology and skills in publishing; and
- to mobilise support for the Council from UNESCO, other UN Organisations and various national and international bodies and associations for the fulfilment of its objectives.

Programme of activities of the Afro-Asian Book Council during August 1991 to February 1992 include :

- Organisation of a special Book Exhibition of Scientific and Technical Books, Mauritius (28 to 31 October 1991) leading to a permanent exhibit of AABC collection;
- Launching of Gandhi Mandela Pavilion with a collection of outstanding Afro-Asian Books, New Delhi (2 October 1991);
- Organisation of Special Book Exhibitions in Kenya, Ethiopia and USA;
- Author Development Workshop in Pakistan & Kenya;
- A Special Training Course for the Book Industry Trainers in collaboration with GTZ (German Technical Cooperation Agency);
- Organisation of the Second Annual General Meeting of the Afro-Asian Book Council, New Delhi (7 February 1992);
- Organisation of the Third Afro-Asian Publishing Conference, New Delhi (8 and 9 February 1992); and
- Setting up National Chapters of the Afro-Asian Book Council in

Malaysia, Sri Lanka Kenya and Nigeria.

The Membership of the Council is open to individuals/organisations and institutions connected directly or indirectly with the creation, production, distribution and promotion of books. The annual subscription rates are:

- Individuals (authors, editors, translators, designers) — Rs. 250 or \$25.
- Publishers, Booksellers, Book Printers — Rs. 1500 or \$100
- Associations /Institutions — Rs.3500 or \$200.

Further enquiries may be addressed to the Convenor and Secretary, Afro-Asian Book Council, 4649, B/21, Ansari Road, Daryaganj, New Delhi-110 002. (INDIA)

### **Bio-Tech Information Sub-Centre**

The Department of Bio-technology, Government of India, has approved a proposal for establishment of a Distributed Information Sub-Centre under Bio-technology Information System at Pondicherry University. The objectives of this sub-centre are to fulfil the growing need of information of large spectrum of scientists working in different areas of Bio-technology at R & D centres, universities and industrial corporations at the national level and to act as a terminal node of the Bio-technology Information System. The centre will have the responsibility to get on line/off line information from Distributed Information Centres and other centres to meet the end user's specific requirements. The Sub-centre will have a micro-computer and printer, fax system, plain paper copier, and modem.



The Indira Gandhi National Open University (IGNOU) is reported to be all set to go international and create a new record, enrolling a first set of 300 students in Mauritius.

According to Prof. V.C. Kulan-dai Swamy, Vice-Chancellor, Mauritius has sought the IGNOU BA, B.Com and B.Sc courses and the Centre is considering it. The Canada-based Commonwealth of Learning is assisting the university in meeting the study needs of Mauritius.

A second IGNOU proposal has come from the University of Nairobi, to start diploma and degree courses in management. This has also been initiated by the Commonwealth of Learning, and involves IGNOU and the Massey University of Canada.

The Mauritian proposal seems to be ready to take off, and the university is working out the counselling programme for the candidates. Counsellors may go to Mauritius to teach the candidates personally at intervals.

Under the present plans, IGNOU is launching in 1993 B.Sc in Nursing, and advanced diploma in Water Resources Management and Construction Management.

Demand for IGNOU print material as a resource among students of even the regular educational system is rising. Recently, the university made its distance education books available for open sale.

## **Workshop on Rabi Fodders**

Dr. Khem Singh Gill, Vice-Chancellor of the Punjab Agricultural University inaugurated a two-day Workshop on Rabi Fodder Production and Conservation. While addressing the State Animal Husbandry Officers and PAU scientists, he emphasized the need for increasing yield per unit area by following the technology generated by the PAU. Dr. Gill stressed that multicut fodder varieties should be preferred. He disclosed that a proposal for setting up an advanced centre for dairy animal improvement had been submitted to the state government.

Dr. Harbhajan Singh, Director of Animal Husbandry, Punjab while speaking on the "targets and production problems in rabi fodder and feed" stressed that the entire fodder seed produced by the University be transferred to his department for further multiplication. He urged that the PAU engineers should develop suitable machinery for fodder harvesting and transportation.

Dr. K.S. Nandpuri, Director of Research highlighted the research activities in respect of fodder crops and said that a new fodder variety namely Punjab Rye Grass No. 1 had been recommended for cultivation in the state. He revealed that this variety was highly nutritious and digestible. It was a multicut, non-legume quick growing variety. Its first cutting was ready in about 60 days after sowing and subsequent cuttings after an interval of 30-35 days. Its green fodder yield was 325 quintals per hectare in five cuttings.

Dr. G.S. Gill, Director of Extension Education of the PAU, who

proposed a vote of thanks, said that the profession of dairy farming fitted well in the diversification of agriculture. He emphasized that the farmers should maintain crossbred cows and high producing buffaloes for higher milk yield. He said that the dairy animals should be provided with nutritious feed and fodder, proper housing facilities and health cover.

## **Improving Academic Standard at HAU**

Several academic reforms have been introduced in the Haryana Agricultural University from the current session, to streamline and ensure the implementation of the academic programmes at the University. According to Dr. A.L. Chaudhry, Vice-Chancellor, advisory committees have been constituted for the graduate and postgraduate programmes, which would examine all problems relating to the improvement of these programmes. Restructuring of the course curricula, shortening the period between submission of thesis and their evaluation and further allowing the inservice postgraduate candidates to join service are the other measures which have been introduced for the postgraduation programmes.

To establish better rapport between the teachers and the students, attendance procedure has been simplified. The Heads of the Departments have been directed to ensure that monthly attendance statements depicting the number of classes held and the number of classes attended by each student in each course are displayed on the



departmental notice boards within the first week of following month. A copy of the same has to be sent to the Dean, of the College for record. Dr. Chaudhry says that by this procedure, the lecture short problem would be minimised and the students would remain alert and attentive to their studies. The practice of associating more than one teacher to teach a single teaching course has been eliminated and in its place 'one-course-one teacher' principle has been introduced. To create students' interest in advance preparation of their respective courses and also to encourage them to devote themselves fully in their studies, the teachers concerned have been asked to distribute to the students within the first 3 days of the start of the course detailed outlines of each course including practicals. With these new steps, it is hoped that HAU will further be steered to the new academic direction.

### Training in Foodgrain Storage

The Training Unit of the College of Agricultural Engineering of the Punjab Agricultural University, in collaboration with the Department of Processing and Agricultural Structures of the College of Agricultural Engineering organized a four-day training course on Grain and Seed Storage Techniques. Dr. G.S. Gill, Director of Extension Education of the Punjab Agricultural University, who presided over the concluding function emphasized the importance of storage of grains and seed for the farmers. He said that the chemicals/fumigants should be used cautiously in proper doses since their excessive use was injurious for human and animal health. He thanked the Director of Agriculture, Punjab for sponsoring lady demonstrators for this training course as ladies could train farm

women for such operations easily as compared to men.

According to Mr. Mangal Singh, Incharge of the Training Unit, the participants were given training in cleaning and grading equipments for seed and grains, domestic storage structures, domestic germination test, infestation and control measure for grains, effects of moisture and temperature on

grains, etc.

Speaking on the occasion Dr. S.D. Khepar, Dean of the College of Agricultural Engineering said that a grain saved was a grain produced. He urged the participants to disseminate knowledge gained at the University to the farmers so that the purpose of such trainings was fulfilled.

## News from UGC

### Countrywide Classroom Programme

Between 16th September to 21st September 1991 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The Programme is available on the TV Network throughout the country.

#### 1st Transmission

1.00 p.m. to 2.00 p.m.

#### 16.9.91

"Remote Sensing - III : Interaction With Matter"

"Barefoot Managers"

"Soil Testing"

#### 17.9.91

"We The People - III"

"Molecules and Models"

"Keep Anaemia Away"

#### 18.9.91

"Science and Technology Centre-II"

"The Living Heritage of Temple

Architecture"

"Nature's Largest Bouquet"

#### 19.9.91

"Soil Mechanics in Practice"

"Scientific Toys"

"Mulkraj Anand : Portrait"

#### 20.9.91

"Number System"

"DNA Finger Printing - III : Judgement"

"Warning for Warming"

#### 21.9.91

"Michael Faraday"

"Sports Medicine - III"

"Rasa Ranjita - Understanding Indian Dance - III : Kuchipudi"

#### IInd Transmission

4.00 p.m. to 5.00 p.m.

#### 16.9.91

"Optical Alignment - II"

"Epidemiology - A Health Tool"

"Groundnut Production - Improved Technology for Higher Yields - II"



## **17.9.91**

- "Mechanism of an Organic Reaction Chemistry,"
- "Transport"
- "Defeating the Invincible"

## **18.9.91**

- "The Excavator"
- "Women's Studies in India - II"
- "Radiation and Its Application"

## **19.9.91**

- "Computers Around Us"
- "Ethnographic Film : Different Perspectives"
- "Shakespeare : His Life and Works - I"

## **20.9.91**

- "Sampling - I"
- "Self-Esteem in Children - I"
- "A Conversation on Edible Fungi"

## **21.9.91**

- "Artists Against Communalism - IV"
- "East West Rhythms"
- "Indian Miniature Paintings"

### **SAARC Fellowships & Scholarships**

University Grants Commission (UGC) has invited applications from Indian nationals for the award of fellowships and scholarships for 1992-93 in SAARC countries viz. Pakistan, Bangladesh, Maldives, Sri Lanka, Bhutan and Nepal.

The fellowships are for one year and will be awarded to teachers in universities and colleges with published works of high quality in Economics, History, Physics, Botany, Mathematics, Chemistry, Water Resources, Management, Architecture, Agriculture, Medicine, Islamic Studies, Buddhist

Studies, etc. The scholarships are for Master Degree Programme in Science, Languages, Social Sciences, Engineering, Agriculture, and Medicine. Candidates having a first class or second class Bachelor and Master degree and intending to pursue higher studies leading to Master

or Ph.D. degree are eligible for scholarships.

Interested scholars may get in touch with the universities or the UGC for details and application formats. The last date for receiving applications is October 10, 1991.

## **News from Abroad**

### **Bridging the Academic/Vocational Divide**

Universities in Britain have signalled their support for a new access route into higher education through a qualification which the Government hopes will finally bridge the academic/vocational divide.

Ministers introduced the concept of General National Vocational Qualifications — a new-style NVQ incorporating core skills and academic as well as occupational training — in the White Paper *Education and Training for the 21st Century*. The National Council for Vocational Qualifications (NCVQ) was asked to work with the Business and Technician Education Council and other awarding bodies to develop GNVQs so they could be offered in schools and colleges of further education in September next year.

An information leaflet soon to be released to schools and colleges to outline the concept, form and structure of the proposed GNVQs says the qualification will maintain the primary characteristics of NVQs — based on a "statement of attainment", made up of units, with credits awarded separately for each unit and accumulated for the full award.

Unlike NVQs they will not be based directly on occupational competence, but focus on the skills,

knowledge and understanding that underpins a range of NVQs in a broad occupational area. Work is in hand to develop GNVQs at levels two and three (three seen as broadly equivalent to A level) in manufacturing, administration, health and care, design and leisure and tourism.

The working model adopted for the first set of GNVQs is that level three qualifications should contain 12 units of equal demand to modules within A and AS levels, where six modules make up an A level and three an AS level. Thus a level three GNVQ would be equivalent in volume or coverage to two A levels. Students would be encouraged to gain units beyond 12 to add to and broaden their range of achievement — the leaflet says the target of 18 units could become common.

One of the most important aspects of GNVQs is that they will include assessment for core or personal skills, such as problem solving, communication, working with others, numeracy and information technology. Competence in modern foreign languages would be available as an option.

The NCVQ suggests the success of NVQs to date can be measured by the rapid increase in the number of students gaining them over the



past year. In the financial year 1989-90 nearly 11,500 NVQs were awarded, but this more than doubled to 54,954 in 90-91. The most recent figures suggest at least 100,000 will be awarded by the end of March, and that the trend will either continue or the numbers of NVQs gained will rise even more sharply.

Because NVQ units can be accumulated over any period of time, it is estimated that the number of students actually engaged in NVQ study this year is at least 200,000.

### Planning Muslim Education System

A Private Islamic University in Britain is being planned by Muslim leaders as the pinnacle of a separate education system for British Muslims to overcome the "moral failings" of the state sector. An education white paper detailing the arrangements will be published later this year as the priority of the new 200 seat Muslim parliament.

Kalim Siddiqui, head of the pro-Iranian Muslim Institute and founder of the parliament, said the British education system had failed. "The system is not producing the kind of men and women we need over the next century," Dr Siddiqui said. "There is no moral underpinning."

An education commission, chaired by Tariq Sattar, a senior lecturer at South Bank Polytechnic, is drawing up detailed plans for a network of Muslim schools, funded initially by voluntary taxes, to breed scholarship into the community.

The intention is to boost dramatically Muslim participation in higher education. To encourage older Muslims, an Open University-style distance learning system will be created, probably distributed via

video.

As an initial step, a new Muslim Education Institute is being created. "First of all we must organise Muslim educators, academics, scientists, engineers and doctors into an institute to formulate policy," Dr Sattar said. "We need to motivate our children, many of whom have no culture of education."

The Education Institute would identify roles for Muslim professionals and offer consultancy and academic exchanges.

"We are trying to do our own original thinking to change the Muslim outlook and perpetuate Scholarship," Dr Sattar said.

### Centre for Study of STDs

Australia's first centre for multi-disciplinary studies into sexually transmitted diseases has been founded by La Trobe and Monash Universities in association with the

Fairfield Infectious Diseases Hospital. Made possible by a \$7 million grant over six years from the Victorian Health Promotion Foundation, plus funding from both universities, the centre will provide State and national leadership in research on sexually transmitted diseases (STDs). It will strengthen and integrate STD research programs under way at the two universities, particularly in education, health sciences, medicine and socio-behavioural disciplines.

Research will emphasise a team approach. There will be close collaboration with clinical experts and community groups. The centre and the various university departments associated with it also will develop health and medical undergraduate, postgraduate and continuing education programs. A major initiative will be an information resource unit, where community groups, educators and the public will have quick access to the latest Australian and overseas findings in STD re-

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**DR. KRISHNA JI**  
*D. Litt.*  
**PRINCIPAL**



search and related developments.

To be known as the La Trobe-Monash Centre for the Study of Sexually Transmitted Diseases, it will be located within La Trobe University's Lincoln School of Health Sciences.

The Vice-Chancellor of La Trobe University, Professor Michael Osborne, said the venture highlighted increasing cooperation among Victorian universities. The STD Centre, together with the Commonwealth's Centre in Gerontology, had enhanced significantly the research base of the School of Health Sciences, he said.

Dr Victor Minichiello, co-convenor with Professor Stewart Fraser of the La Trobe-Monash STD working party, believes the HIV, or AIDS, epidemic presents unparalleled public health challenges which demand close cooperation by behavioural scientists, educators, social scientists, virologists, immunologists and medical practitioners.

He said the spread of STDs was influenced by human behaviour which evolved in a broader cultural, social and political context. "To gain better understanding, we need to take into account factors such as the sensitivity of the subject, implications for personal relationships, problems of confidentiality, access to health and counselling facilities, knowledge and information, and the regulation of gender and sexuality," he said. "Epidemiology, immunology, microbiology and pharmacology also make essential contributions."

Turning to specific diseases, Dr. Minichiello said the emergence of STDs as a major 20th-century health problem had stimulated recently a number of scientific advances and collaboration between researchers

and practitioners. The main diseases to emerge included :

- herpes, which has serious complications for the newborn and debilitating symptoms in adults. Research has led to the discovery of effective new anti-viral drugs;
- wart virus, a prime risk factor in cancer of the cervix, which needs united action by molecular biologists and experts in women's health; and
- chlamydia, until recently difficult to detect, which can cause infertility which often leads to the ethical, emotional, financial, legal and social problems related to invitro fertilisation programs.

Professor Fraser said research at the centre would include a major base-line study of Victorians' knowledge, attitudes and behaviour which influenced people's exposure and response to STDs.

Other studies would examine the impact and response of particular groups — women, young adolescents, homosexual men, ethnic groups — to STDs, the effectiveness and availability of current STD treatment and management, and the relationship between the various diseases.

### **Gerbier-Mumm Prize 1992**

The French Centre for University, Scientific & Technical Development has announced the Norbert Gerbier Mumm Prize for the year 1992.

Instituted in memory of Norbert Gerbier, French meteorologist, in charge of agrometeorology in France, President of the Agricultural Meteorological Commission of the World Meteorological Organisation from 1979 to 1985, the

Norbert Gerbier - Mumm prize is an international meteorological research prize awarded annually by the World Meteorological Organisation (WMO) in recognition of an original scientific study on the relationship between Meteorology and Man, Nature or the Universe.

The prize consists of (i) a diploma of the World Meteorological Organisation; (ii) a cheque for FF 50,000.00 (roughly Rs 2 lakhs) offered by the Mumm Foundation; and (iii) a medal carrying the effigy of Norbert Gerbier presented by Mrs Guidard-Gerbier.

Candidatures for the 1992 prize must be sent to the following address before 31st December 1991:

Monsieur le Representant Permanent de la France aupres de l'Organisation Meteorologique Mondiale (OMM), METEO FRANCE, 77, Rue de Sevres, 92102 Boulogne, France.

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### **RAVISHANKAR UNIVERSITY RAIPUR**

#### **CORRIGENDUM TO EMPLOYMENT NOTICE NO.1/91**

In partial modification of Employment Notice No.1/91 the "Desirable Specialisation" as mentioned for the posts of Professor, Reader & Lecturers in ELECTRONICS is hereby withdrawn. This is modified as under :

"Master's Degree in the subject concerned or any related field of Study".

The minimum qualifications & other conditions as prescribed in Ordinance No.4 remain unchanged. Applications in seven copies are to be submitted with Bank Draft for Rs.20/-

The last date for receipt of applications for posts in Electronics is extended to 23rd September, 1991.

M.S. Dubey  
REGISTRAR

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# AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on higher education. Among the topics prominently represented are educational sociology, educational planning, educational administration, teaching & teachers' training, examinations, economics of education and country studies. Developing fields of adult education, continuing education and distance education, and educational technology are also well stocked. The library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of higher education. Files of annual reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to the AIU Library'.

The library receives about a 100 periodical titles on higher education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'. Similarly our column 'Education News Index' reports editorials and articles on higher education published in over 20 newspapers that are received in the library from all over the country.

The library is steadily building up a collection of audio and video cassettes on matters educational and maintains a well appointed Audio-Visual Room equipped with a double deck audio cassette recorder, a VCR and a colour TV monitor, and an overhead projector.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research Scholars and students of education are welcome to use these resources. The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

## RESEARCH IN PROGRESS

### A list of Research Scholars registered for Doctoral Degrees in Indian Universities

#### SOCIAL SCIENCES

##### Political Science

1. Pandey, Neeta. *Shimla samjhaute ka Bharat Pak sambandhon per prabhav: Ek adhyayan.* HS Gour. Dr R P Goutam, Department of Political Science and Public Administration, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

2. Sasidharan, N. *The origin of the Communist Party of India (Marxist) in Kerala: A study of social and political radicalism.* Kerala. Dr V K Sukumaran Nair, Former Vice-Chancellor, Leela Nivas, Golf Links Road, Trivandrum.

##### Economics

1. Mishra, Gireesh Kumar. *Bhartiya Jeewan Beema Nigam ke pragati evam uplabdhiyan: Sagar Jile evam Sagar Sambhag ka tulnatmak adhyayan.* HS Gour. Dr S K Pandey, Department of Economics, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

##### Public Administration

1. Ashok Kumar. *Personnel administration in public and private systems: A comparative study of Himachal Pradesh Marketing and Fruit Processing Corporation and Mohan Meakin Brewery Private Limited, Solan.* HP. Dr P N Gautam, Department of Public Administration, Himachal Pradesh University, Shimla.

2. Chauhan, Balak Ram. *Financial administration in public enterprises in Himachal Pradesh: A comparative study of Himachal Pradesh State Electricity Board and Himachal Road Transport Corporation.* HP. Dr P N Gautam, Department of Public Administration, Himachal Pradesh University, Shimla.

#### HUMANITIES

##### Fine Arts

##### Music

1. Kishan Lal. *Sirmauri sangit ke lok sangit ka vishleshnatmak adhyayan.* HP. Dr C L Verma, Department of Performing Arts, Himachal Pradesh University, Shimla.

##### Language & Literature

##### English

1. Ahluwalia, Namrata. *A study of Indo-British relations in some select novels.* Vikram. Dr D S Tatke, Vikram Lodge, Maksi Road, Ujjain.

2. Khan, Rafique Ahmed. *News papers as ELT materials.* Vikram. Dr A G Khan, Reader, Department of English, Vikram University, Ujjain.

3. Pandey, Anjana. *A critical study of the fiction of J D Salinger.*



**Vikram.** Dr B G Tandon, Prof and Head, Department of English, Vikram University, Ujjain.

#### Sanskrit

1. Mohan Lal. *Balmikiya Ramayan ke sandarbh mein Sitaram Vihar Kavyam: Sameekshatmak adhyayan.* HP. Dr (Mrs) Vidya Devi, Department of Sanskrit, Himachal Pradesh University, Shimla.

#### Hindi

1. Gupta 'Chatak', Ramesh. *Hindi manchiya kavya visheshta 1960-90 mein vyanga: Malwa Anchal ke pramukh manchiya vyan-ga kaviyon ke pariprekshya mein.* Vikram. Dr Shiv Sahaya Pathak, Prof and Head, Department of Hindi, Vikram University, Ujjain.

2. Patel, Suresh. *Laxminarayan Lal: Vyakti aur sahitya.* Vikram. Dr Harimohan Budhaliya, Reader, Department of Hindi, Vikram University, Ujjain.

3. Saraswathy, K. 'Sursagar' tatha 'Krishnagadha' mein kavya sanskriti aur darshan. Kerala. Dr S Thankamani Amma, Reader,

Department of Hindi, Institute of Correspondence Courses, University of Kerala, Kariavattom.

4. Sharma, Aruna. *Chhayavadottar Hindi kavya chetna ke vibhinn ayamon ka anusheelan.* Vikram. Dr Bhagirath Badole, Reader, Department of Hindi, Vikram University, Ujjain.

#### Marathi

1. Gaikwad, Hemlata Ramchandra. *Adhunik Marathi grameen kavita: Ek abhyas.* Shivaji. Dr S R Chavan, Reader, Department of Marathi, Kisanveer Mahavidyalaya, Wai, Distt Satara.

#### Tamil

1. Sheila, M. *A critical study of the works of Manonmaniyam Sundaranar.* Kerala. Dr C Subramonia Pillai, Reader, Department of Tamil, University of Kerala, Kariavattom.

#### History

1. Karadge, Appa Kallappa. *Lingayat Community in Kolhapur District: A socio-economic study, 1949-1990.* Shivaji.

## THESES OF THE MONTH

### A list of Doctoral Theses accepted by Indian Universities

#### SOCIAL SCIENCES

##### Journalism

1. Tripathi, Uma. *Hindi newspapers and agricultural journalism.* Durgawati. Dr Baldev Raj Gupta, Head, Department of Journalism and Mass Communication, Banaras Hindu University, Varanasi.

##### Psychology

1. Gurdial Singh. *A study of selected psycho-physical abilities of Indian male gymnasts in relation to their performance level.* Jiwaji. Dr D N Shrivastava, Reader, Department of Psychology, Agra College, Agra and Dr A K Uppal, Deputy Dean, Lakshmibai National College of Physical Education, Gwalior.

2. Sharma, S K. *The effects of impulsiveness/venturesomeness and time pressure instructions on the recall and recognition of semantic and rhymed tasks.* BHU. Prof B S Gupta, Department of Psychology, Banaras Hindu University, Varanasi.

##### Sociology

1. Jain, Padama Chandra. *Drop-out in adult education programme: A sociological study with special reference to Gwalior and Chambal Divisions.* Jiwaji. Dr M P Shrivastava, Department of Sociology, Government KRG College, Gwalior.

2. Mariados, Philomena. *Social support and coping with cancer: A study in medical sociology.* Bangalore. Dr N Jayaram, Department of Sociology, Bangalore University, Bangalore.

3. Pokarna, K L. *The structural and cultural factors in health and diseases: A sociological study in selected rural communities of Rajasthan.* Rajasthan. Prof N K Singhi, Department of Sociology, University of Rajasthan, Jaipur.

4. Rahaman, S M Zillur. *Kinship organization in a village in Bangladesh.* Delhi.

5. Singh, Rana Narendra Pratap. *Elinta Bhatton per karyarat Bihar ke adivasi shramikon ka samajvaigyanik adhyayan.* BHU. Dr O P Gupta, Reader, Department of Sociology, Banaras Hindu

University, Varanasi.

6. Vinod Kumari. *Socio-economic dimensions of availability and utilization of energy in Rural Haryana.* HAU.

##### Social Anthropology

1. Bhattacharya, Kishore Kumar. *Structure and individual in Assamese society: A study of family, kinship, caste and religion.* Gauhati. Prof A C Bhagabati, Head, Department of Anthropology, Gauhati University, Guwahati.

2. Pradhan, Parameswar. *Economic development and social change among Kandhas: Data from a Kandhamal Village in Orissa.* Sambalpur. Dr S N Ratha, Prof, Department of Anthropology, Sambalpur University, Jyoti Vihar, Burla.

3. Sinha, Archana. *Concept of illness and health seeking behaviour in West Bengal: A micro study.* Calcutta.

4. Tripathy, Eteesradha. *Infant rearing practices by mothers among the urban dwellers of Western Orissa.* Sambalpur. Dr S N Ratha, Prof, Department of Anthropology, Sambalpur University, Jyoti Vihar, Burla.

##### Social Work

1. Agarwal, Uma. *The unadjusted student - manifestations and implications: A comparative study of adolescent students of Class X-XII in Public and Government School.* Jamia. Prof P K Gandhi, Department of Social Work, Jamia Millia Islamia, New Delhi.

##### Political Science

1. Abraham, Raju. *Role of political parties in State Legislature: A behavioural analysis of the 8th Kerala Legislature Assembly.* Kerala. Dr N Jose Chander, Prof and Director, Institute of Correspondence Courses, University of Kerala, Kariavattom, PO Thiruvananthapuram.

2. Chowdhury, Siddique Ahmed. *The Bangladesh Nationalist Party and political development in Bangladesh: A study on civilian role of a military regime.* Delhi.



3. Gupta, Renu. **Left movement in India: A case study of Jammu and Kashmir.** Jammu. Dr Vidya Bhushan, Reader and Head, Department of Political Science, University of Jammu, Jammu.

4. Kushal Deep Kaur. **Revolutionary strategy in Southern Africa: Case study of Mozambique.** Delhi.

5. Narayan, Jitendra. **Pattern of communal riots in Bihar after independence.** Mithila. Dr Kameshwar Jha, Principal, H P S College, Madhepur.

6. Pandit, Manorajan. **Caste system and its impact on politics in the Lakhimpur District of Assam.** Gauhati. Dr Niru Hazarika, Prof, Department of Political Science, Gauhati University, Guwahati.

7. Rai, K L. **Madhya Pradesh mein anusoochit jatiyon evam janjatiyon ke vikas mein Jila Prashasan ke bhumika: Shivpuri Jile ke vishesh sandarbh mein.** Jiwaji. Dr L D Gupta, Prof and Head, Department of Political Science, Government P G College, Shivpuri.

**Economics**

1. Al-Nawasreh, Ibrahim Raja Mohd Al-Husain. **Foreign trade and economic development: A case study of Jordan.** Nagpur. Mrs A P Kulkarni, Department of Economics, Nagpur University, Nagpur.

2. Balakrishnan, G. **A study on the industrial relations in cotton textile mills in Tamil nadu.** Bharathidasan. Dr C Thangamuthu, Reader, Department of Economics, Bharathidasan University, Trichy.

3. Bohre, Niharika. **Dakshin Pashchim Madhya Pradesh jan-jati shram ka arthik shoshan.** Devi Ahilya. Mrs T K Vazdi, Department of Economics, Devi Ahilya Vishwavidyalaya, Indore.

4. Kulkarni, Subhash Nagorao. **Utilization and impact of long term finance for new wells in the drought prone areas of Marathwada Region.** Marathwada Krishi. Dr L V Ambegaonkar, Deputy Director, Department of Agricultural Economics, Marathwada Agricultural University, Parbhani.

5. Kunhaman, M. **Development planning at the state level in India: A case study with reference to Kerala, 1957-84.** CUST. Dr M K Sukumaran Nair, Reader, Department of Applied Economics, Cochin University of Science and Technology, Kochi.

6. Mani, K P. **Tile industry in Kerala: Economics.** CUST. Dr Jose T Payyappilly, Prof, School of Management Studies, Cochin University of Science and Technology, Kochi.

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Political Science	01	-	-
Economics	-	01	-
History	-	01	01
Sociology	-	01	-
Library Science	-	01	-
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Chemistry	-	01	-
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	Assistant Professors	02	-	01	01	-	-
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	Producers	02	-	01	-	01 BC-A	-
<b>V. COMPUTER CENTRE</b>							
	Programmer	01	-	01	-	-	-
<b>VI. NON-TEACHING</b>							
1.	Assistant Director (Printing)	01	01	-	-	-	-
2.	Library Assistant	01	-	01	-	-	-
3.	Assistant Public Relations Officer	01	-	01	-	-	-
4.	Instrumentation Engineer	01	01	-	-	-	-
5.	Assistant Executive Engineer(Civil)	01	-	01	-	-	-
6.	Works Supervisor(Civil)	01	01	-	-	-	-
7.	Statistical Assistant	01	01	-	-	-	-
8.	Cameraman	01	01	-	-	-	-
9.	Draughtsman (Civil)	01	01	-	-	-	-
10.	Plumber	01	01	-	-	-	-
11.	Production Assistant (Audio-Video)	03	01	01	-	01 BC-A	-
12.	Technician (Audio-Video)	01	-	01	-	-	-
13.	Floor Assistant (Skilled)	01	01	-	-	-	-
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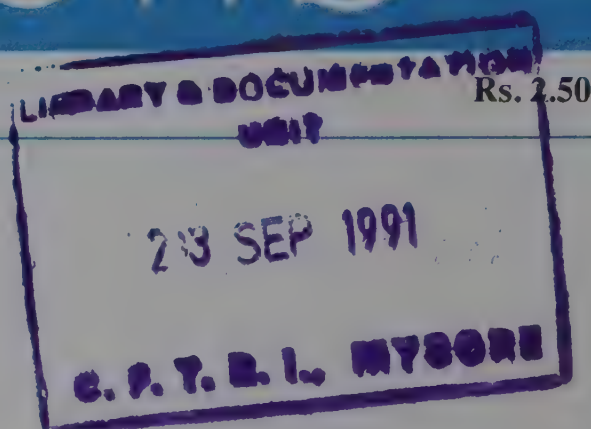
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## IN THIS ISSUE

On University Autonomy	3
Vocationalisation of Home Science Education	7
Pragmatic Courses and English Language Teaching	12
A Fascinating Voyage	14

### Campus News

West Zone VCs Meet	17
Refresher Course in Modern Arabic	19
Workshop on Women & Health	19
UNESCO Literacy Award	19
MA in English Language Studies	19

### Agriculture

Pest Management Workshop	20
--------------------------	----

### News from UGC

Countrywide Classroom Programme	20
Fake University	21

### News from Abroad

CIES Annual Conference	21
NIAS Fellowships	21

### Inter-University

Tournaments—Results	23
Theses of the Month	28
Education News Index	31
Advertisements	C-3

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Editor :  
SUTINDER SINGH

M.C. Arunan\*  
Jennie Mendes\*

Ivan Illich visiting Kerala in the seventies was visibly impressed by the literacy level in that remote part of the largely illiterate Indian sub-continent. However it did not escape the penetrating eyes of this avant-garde educationist that closely in parallel to the fairly widespread formal schooling system (of which Illich had been a severe critic) ran a more dynamic and outreaching set up of a village library network. This made Illich to wonder, while delivering the Fritz Schumacher lecture in 1980, whether Kerala "has schools because of libraries or libraries because it has schools". An inveterate ideologue of "vernacular values" and an advocate of open network institutions he had settled for the position that Kerala's phenomenal literacy rate has a lot more to do with the network of participatory village libraries than formal schooling system.

In the fifties and the sixties when Kerala was one of the poorest among Indian states, (the gulf-gold was yet to be unearthed by the populace) the unemployed, the under-employed, workers and the intelligentsia got together in village after village to start reading rooms and libraries in every nook and corner of the state. The "Granthasala Sangham" a literary-cum-social organisation took it upon itself to arrange supplying literature of all kinds through mobile vans and with the help of head load volunteers. This means of sharing and exchange of resources put paid to the notion that poverty is an impediment to progress. In Kerala those days it looked as if poverty was the motivating force!

If today, Kerala can boast of cent percent literacy major credit should go to the library movement with its open network and participatory organisation. It provided neo-literates access to a variety of printed materials preventing them from lapsing into illiteracy. The movement, its outreach, its participatory management system and above all its economy proved to be a spectacular example of social engineering as if people mattered.

There is a lesson in this, not only to those involved in mass functional literacy but also to educationists of all hues. That information is power is axiomatic today. For the empowerment of the people an efficient information resource and distribution management system is imperative. Public Libraries that are intended to cater to this need however are nobody's baby and are in dire straits. Eversince libraries have been co-opted into the formal educational institutions it is no more the open, free, accessible community organisations that they were. They have virtually become exclusive clubs.

Compare the local public library (if it still exists!) which serves everybody with the schools/colleges which serve only a few among a certain age group. Though more money is invested and prestige accorded to schools and colleges than public libraries, the true information resource centres of the whole community have almost become extinct.

There is no recognition of the fact that libraries are educational institutions by themselves that complement the school/college system. In fact the

\*Sophia College, Bombay-400 026.



latter can affectively interact with neighbourhood libraries by way of resource-sharing etc. On the contrary what is happening today is a hidden competition between these two resulting in the decimation of the Public Library system.

Libraries in the formal educational centres like schools and colleges have another pathetic story to reveal. Libraries here are just another appendage which perforce have to be sustained for statutory reason. It is yet to be considered an essential component of the system. Look at the status of the library staff. They have yet to get recognition among the comity of academics. Look at the pattern (if there is any pattern at all!) of funding to these libraries. An analysis of the budget allocation to libraries of 99 universities based on the data supplied by the Universities Handbook 1985-86 is illustrative. In about half the number of universities allocation is between 1% and 5% of the total budget. In fact 23 universities spent just less than 2% of the budget. Of the 99 universities only 11 spent a little over 10%. The K.N. Raj Commission appointed by the Karnataka Government (one of the very few ever formed to look into this aspect of the educational system) recommended the minimum allocation of 20% to libraries.

At the level of higher education the pedagogical system is meant to be substantially different. Here the teacher plays the role of a catalyst provoking and inspiring students to seek knowledge and skills, to a much larger extent on the students own initiative; accent should be on learning rather than teaching. Unfortunately this qualitative difference between the school and collegiate levels is lost sight of and still primacy is given only to class-room teaching and not to learning by students. This mistaking of classroom teaching for learning has made libraries what they are today. One may even surmise that if there is one single factor that is responsible for the deterioration of the quality of graduates and postgraduates coming out of the portals of universities today, it can be traced to the pathetic state of the libraries. If more and more students (and teachers!) are less and less inclined to read we do not have to search too far for the reason.

It is striking to note that "The Challenge of Education – A Policy Perspective" brought out by the Education Ministry in August, 1985 and which is the basis for policy planning by the present Ministry of Human Resource Development does not include even a cursory allusion to the library system or to the largely inade-

quate availability of books and periodicals.

The problem is more acute in the case of science education. Here since all the primary sources are of foreign origin and since there are no linkages between our own scientific research centres and colleges one has to virtually depend upon foreign books and periodicals for information. These publications are exorbitantly priced and the University/college libraries with their ever shrinking budget naturally cannot afford to provide these to students and teachers.

What then is the way out of this predicament? Recognition of the primacy of Library and Information services in education is the first step to salvage the situation. Next, considering the fast rate of expansion of information and the ever increasing price of books and journals a rationalised system of information resource and dissemination management is called for. Networking of neighbourhood libraries with a view to resource sharing can be resorted to urgently. Wastage due to duplication, obsolescence etc., may be avoided by regionwise planning strategy. Above all the Ministry of Human Resource Development should immediately appoint a commission to draw up a National Library and Information Services Policy so that at least by the turn of the century library and information services networking facility will be made available to anybody anywhere in this country who is interested to learn.

Pandit Nehru's famous statement during those euphoric days that if all is well with our universities all would be well with the nation may be given a logistical twist today : If all is well with our Public Library and Information Service system all would be well with nation.

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## To Our Readers

Knowledgeable and perceptive as they are, our contributors must not necessarily be allowed to have the last word. It is for you, the readers, to join issues with them. Our columns are as much open to you as to our contributors. Your communications should, however, be brief and to the point.

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# ON UNIVERSITY AUTONOMY

K. K. Bajaj\*

In practice autonomy is understood to mean 'self-governance' or functional freedom without any fetters and it implies 'management by internals' without any outside interference and checks. In the field of higher education in general and universities in particular this connotes a teacher oriented system. This is a concept which is dearly espoused and closely guarded by teachers and administrators alike with the argument that this alone can ensure the healthy growth and consolidation of their system and that any attempt to discuss it even in the prevailing situation is unnecessary and may dilute its implication and limit its area and scope. There is no doubt that a certain measure of freedom is required in a democratic set up to ensure the pursuit of higher learning and for the maintenance of academic standards within the framework of societal objectives. Ideal self-governance promotes the free and full exercise of intellectual and academic pursuits whereas outside political or bureaucratic interference or checks may impede the efforts which otherwise get encouraged in the course of the exercise of the autonomy. Our university system which owes its lineage to the British pattern of universities, leans heavily on the ideals which maintain highest standards of academic growth guaranteed through autonomy. The first Committee on 'Model Act for Universities', appointed by the Ministry of Education (1964) stated in its report 'Autonomy for a university is not a matter of fundamental right, as it were, but is a condition for its efficient functioning and for enabling it to achieve the true ideals and aims of a university. A university needs autonomy if it is to discharge properly its functions and obligations to society and play an effective part in the development and progress of the country'. Kothari Commission (1964-66) in the context of autonomous colleges spoke of granting autonomous status to outstanding colleges to enhance their capacity to improve themselves markedly. Dr.P.B.Gajendragadkar (1971) in his report of the Committee on Governance of Universities pointed out that "in order that the Universities may perform their functions properly, their autonomy should be scrupulously respected by the legislatures and the executive ...". In the Seventh Plan the UGC came forward in a big way with an encouraging proposal for the estab-

lishment of 500 autonomous colleges to implement its concern for grant of autonomy to educational institutions in accordance with the New Policy on Education, (1986).

## Social Responsibility Functions

In the matter of prescribing content of education, delivery system, norms of admission of students to different courses, deployment of its physical and fiscal resources in terms of their own priorities the universities have complete freedom. As custodians of maintenance of academic standards it is obligatory for the state to support these measures to ensure independence of choice and action by the universities. With education as an instrument of social change, the teachers in the universities have to act as creative craftsmen to shape and facilitate this change and consolidate human resource in the country. The teachers' social contribution in all their academic programmes that the universities implement, gets reflected in the shape of acceptance or rejection of their products. Incidentally this is also the indication of level of efficiency of our universities. The courses that are prescribed, the manner in which these are taught and the conduct of the teachers — all have a social impact and bearing. The society in a democratic set up responds to their worthiness in a befitting way. It is in this context that the autonomy in action draws attention. In a larger perspective this is neither to be construed as an undue attempt to subject the universities to social audit and evaluate their role in promoting equity and excellence with relevance in society. Universities are the acknowledged seats of higher learning. Their activities contribute to the improvement of quality of life, resurrection of values and culture besides creation of social awareness. By and large their goals are singularly social. They have social responsibility functions to perform. It is in doing so that they enjoy autonomy in the matter of prescribing curricula, selecting students, and appointment and promotion of teachers. Teachers constitute that creative human resource which helps the universities in the performance of their social responsibility function. While the UGC lays down the basic qualifications, the universities continue to have their own statutory provisions and procedures for the selection of teachers, along with the schemes of merit promotion and personal promotion, for the inservice teachers

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\*Dean of Colleges-cum-Director, Himachal Pradesh University, Shimla-171 005.



to ensure and encourage their professional interest and growth. These schemes no doubt contribute to what may be called a confidence building effort for the teachers in the profession yet from professional and academic angles it remains to be seen how such vertical mobility measures enhance the professional competence of teachers. There are also social and psychological imperatives to sustain them. Partly realising the need for this the UGC has established a network of Academic Staff Colleges with heavy financial investment so as to institutionalise the programme of professional upgradation of teachers to some degree. Their academic packages include confidence building training besides subject-specific inputs. The effort is laudable and merits continuation to bring about awareness about qualitative improvement in the profession.

In this age of continuing competence where economic considerations have an edge over all the measures, efforts have to be diverted to establish the excellence of academic inputs through quality of teaching. In a society where degrees do not indicate the real level of attainment of candidates and as a consequence of which every job giving institution conducts a test of its own, the role of academic autonomy being enjoyed by our universities producing non-standard human stuff requires to be reviewed. With each university having its own avowed level of academic proficiency, the level of one university varies so much from that of the neighbouring university that the products do not even receive recognition and credibility anywhere. With this disparity in the attainment level of students and the promotion of parochial and regional preferences in the absence of a nationally acceptable uniform academic or employment standard, the products have to compete among themselves for the few jobs that are available. While competition in the academic world leads to growth, at places, it also indicates the rank poverty of human material which is available in the job market as a by-product of the dubious attribute called academic autonomy being enjoyed by the universities. In the name of academic autonomy the obsolete courses get perpetual reruns without the academics revising them in the context of the emerging occupational patterns and social linkages. This indicates that in the course of enjoying autonomy the courses continue to be arbitrarily prescribed and perpetuated to suit the convenience of a handful of teachers in universities. Even such a central coordinating and monitoring agency as the University Grants Commission (UGC) cannot directly interfere and advise the improvement of courses as a national exercise to be adopted by these universities though it does encourage such initiatives to restructure courses with assistance packages and model curricula

developed by it in different subjects with the help of experts in Curriculum Development Centres. Apparently in the exercise of academic autonomy some of the universities insulate themselves and permit long-term freezing of their courses at the behest of some of their teachers.

### Need for National Consensus

Autonomy permits the universities to prescribe their own academic calendar which includes schedule of admissions, number of teaching days, preparatory holidays, conduct of examinations etc. Though the UGC emphatically prescribed a minimum of 180 working days many universities according to their own regional compulsions and other considerations which are perhaps beyond their control, end up with a compromise for fewer number of working days. The pressure groups of students, teachers and karamcharis for one reason or another demand, disturb the working schedule of the universities and in the name of autonomy exploit the system to their advantage. The maintenance of academic standards gets the last priority attention and as a result of this, the society eventually suffers. It is in this direction that a national consensus requires to be evolved to ensure that while enjoying academic autonomy the number of working days are not reduced and that the system does not suffer despite regional imbalances, diverse pressures and compulsions. The entire process of higher education has to be a concerted national effort. It has to be an action oriented system which enthuses our youth to build up confidence in our future development with specific social objectives to sustain. Area specific responses and requirements have to be integrated in our exercise to determine and maintain standards uniformly in pockets of diverse nature and socio-cultural needs despite plurality of approaches. Mere propagation of elitism in fringe areas cannot justify survival of autonomy in our universities. Autonomy in determining university courses could also be a welcome facilitator in higher education provided such an agreement is not free from social scrutiny and accountability. By and large it is now being felt that our universities have failed to contribute adequately to the promotion of national economy and to contain our youth. The academic programmes of the universities without any social and industrial linkages speak of lack of accountability in our system which is wedded to the principle of autonomy. The universities opened under social, political or regional compulsions failing to discharge social responsibility are only a drag on our system which is already top heavy and unmanageable. They draw financial support from society, state governments and the UGC. The payment of develop-



mental grants should be linked to development indicators. The requirement could be weighed and justification assessed in terms of courses, infrastructure, students services and extension activities relevant to the society. As an apex academic nodal agency the UGC could encourage such universities as have action-oriented programmes through a study of impact analysis. More grants should flow to backward, hilly and rural areas which have remained deprived over a period of time. The universities which simply perform the task of 'baby sitting' for our youth should be guided with greater counselling to improve their academic inputs and become socially relevant. Student information services should be introduced and obsolete courses and equipments weeded out in a phased manner.

### Academic Leadership

Universities exist for students. Their principal functions are to be discharged through teaching, research and examinations. All programmes and packages require to be tailored for the enhancement of students' participation in national life and to make them better citizens. Those conventional courses which simply swell the ranks of unemployable youth and contribute to their frustration require to be restructured to command greater acceptability and recognition in the society. The academic leadership in the university should take initiative to guide the youth to academic goals and prevent them from being captured by power hungry politicians and teachers. The secular ideals and the national priorities should dominate our thinking at this stage. For continuation of this outlook and character the universities rightly deserve autonomy even though it may not be legal concept yet it has to be a functional attribute but its exercise has to be creative and socially relevant rather than absolute, dogmatic and unproductive.

The state universities draw their grants from the state governments while the central universities get their requirements fulfilled from the UGC. All managements survive anyhow. The system has so much of flexibility in it that it has withstood the challenge of times and vagaries of all political moods in the country. No universities are known to have been shut down while many have been bifurcated or even trifurcated over a period of time as a result of political or regional considerations. In the administrative context the universities all over the country present a heterogeneous scenario. While a few of the universities enjoy complete autonomy there are others where decision making bodies stand heavily loaded with bureaucrats and politicians rather than academics of standing and scholars of repute. Where the autonomy gets compromised, the erosion is normally attributed to lack of sound academic leader-

ship and infighting among the academics in the institutions. Here it is also stated that the decisions are devoid of vision and are usually on the basis of considerations other than academic — may it not be to suggest that vision flows from the consideration of academicians alone. This is an issue which can be debated but the present dehumanized academic order in the universities having promoted politics in the universities has failed to sustain its academic content and leadership. Senior academicians seem to have abdicated their role and permitted the popular run-of-the-mill politicians and bureaucrats to take over. Demise and downfall of academic leadership of Vice-Chancellors who usually depend upon political grants has also led to the dilution of autonomy. Indifference of our own non-performing teachers and other academic executives is partly to blame. Political umbrella seems to be ominously overtaking our universities thus making autonomy a victim.

### Administrative Set Up

At the administrative level autonomy may not mean total lack of outside participation and functioning under the policy of laissez-faire. Outside participation should be supportive enough to sustain our educational endeavour in the universities. Administration has to be the implementing arm of all academic plans and policies. Its presence has to act as a healthy check on the vagaries that might creep into the system to cripple it. It has to be effectively articulate in preserving the system. At no stage can it be permitted to dominate or overawe the academic system. Its role has to be that of a catalyst, a facilitator and promotor of all academic designs. While its presence has to promote all that is required for its healthy sustenance, the university teachers do not tolerate its interference if there it be so anywhere. In the right perspective and within reasonable limits it has to be its mentor to ensure its success. In the period of transitional growth and change, the educational and academic leadership has to owe its survival to it but wherever the administrative set up comes to acquire an interfering role in the academic pursuits and determination and coordination of standards its role is resented and questioned. Administrative autonomy does not match evenly with academic autonomy even though their roles are complementary and one without the other cannot possibly contribute systematically to the system of higher education. The academic direction is determined by senior teachers while the administrative tone is set by bureaucrats. Temperamentally the two sides may not be ideally suited to have mutually complementary roles. It is for this reason that the presence of bureaucrats in universities is looked upon by the teachers and others with a sense of indignation and consternation. It is on this account that a national policy has to be evolved and



adopted though Gajendragadkar Commission had set the ball rolling in the right direction for a national debate on the issue with broad suggestions on the role and status of both in the universities. Still it is a matter of open debate as to whether or not the university administration should be handed over exclusively to the bureaucrats who could be appointed as Registrars and Vice-Chancellors and then the teachers be asked to give only academic leadership and concentrate on teaching and research. The consensus to arrive at may not be so easy but wherever this experiment has been made, it has achieved a qualified success. While versatility of teachers in teaching and research cannot be questioned the talents of bureaucrats can also not be under-rated. Whereas the universities may be autonomous both in administration and academic functioning, any fight or confrontation between the two tells upon the health of the entire system with students and society suffering the most.

Academic leadership without administrative stability and maturity can hardly prove effective enough to withstand the challenge of our demanding youth. Our youth is highly volatile. The lack of coordination between the administrative and academic leaders can often result in renaissance of indiscipline, insubordination and politicisation in our universities. There should be no dichotomy between the roles of the two, the autonomy in the functioning of each should be mutually respected with areas of work and duty duly defined without any overstepping and overlapping. The homogeneity of such a system alone can ensure peace on campuses and negation of undue politicking among students, teachers and employees. This is all the more necessary in view of the autonomy that the educational institutions may enjoy.

Each university swears by autonomy and zealously propagates it at all possible operational levels. The state governments while funding the universities as a social responsibility function look upon the unfettered and autonomous functioning of the universities as an affront to their right to call for their social audit which inter alia leads to political interference or say the politicians like to have in them. Giving the government its due role to act as the elected representatives of the people, it has to be considered whether the universities in the face of frequently changing governments and political states, have to be answerable to them. This is an open question. This has its critics and protagonists. This may have its operational difficulties which may make the system unstable besides being directionless and palpably open to manoeuvring of clever politicians. However in a democracy the system of higher education cannot be made inaccessible to the representatives of

the people. Their involvement may give the educationists the much needed feedback to shape the system to suit the social demands. So the universities have to give such an academic leadership as may be relevant to social needs. It has to be a model of participative management drawing its people from different sectors in its decision-making bodies. The representation should be free from all narrow political and parochial considerations and should only be linked to excellence and achievement of individuals in different fields so that the university community could benefit from their vast experience and diverse social connections and could carve new programmes and policies to sustain its forward growth. The administration of the university should be equally receptive to the social calls and responsibility and should become accountable to the society through judiciousness and impartiality of its action and approach.

So where autonomy means independence in thought and action at different levels in a university, it enjoins upon it a greater responsibility in a democratic set up to act with greater restraint so as to be open to social audit, public scrutiny and a more sustainable participative management. The whole set of responsibilities in providing academic leadership and administrative competence get linked to social aspirations in the exercise of autonomy.

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# Vocationalisation of Home Science Education

## Significant Problems and Tasks

P. S. Chari\*

The educational system of a country is an important instrument of social welfare and change. More specifically its major functions are the transmission of the cultural heritage, discovery of new knowledge and technology providing of skilled manpower for all of society's tasks and services, and provision of corrective guidance within a framework of the value system it upholds.

One or the other of these functions of education will assume significance at one time or the other and will be the focus of attention of the public and the government. Like all social institutions the educational system also, if not subjected to frequent scrutiny, tends to be gradually ineffective, becoming cluttered with the deadwood of meaningless unutilisable subjects of study. Education in such a condition then ceases to deal with needed competencies to hold a job or to influence the course of social development. This has been a valid criticism of higher education in India stressed by the Education Commission of the Government of India in its report of 1966. The irrelevance of education to India's needs today is also there because higher education in this country is still a relic of the days of British rule when education was quite relevant to the requirements of the rulers.

The primary goals of education declared important by the Education Commission were the stimulation of economic growth, strengthening of democracy, and promotion of social justice. It is in the light of these goals that especially higher education has failed dismally. The overriding need of the country is faster economic growth. This then becomes the goal of highest priority for higher education in all fields of study, including home science education. In fulfilling such a goal, education should help in protecting the society from the hardships of the numerous pressures, disparities, social injustices, and imbalances that may come in the wake of any strategy of economic growth adopted by the country.

A major strategy for uplift of the economy is the

*\*Former Dean, Faculty of Home Science, M.S. University of Baroda, 54/6 Sripuram Colony, Polwells Road, St. Thomas Mount, Madras-600 016.*

generation of work, fuller employment and higher level of productivity of goods. The educational system is expected to develop adequately the human resources for providing skilled power and the ability in general in people to generate work for self-employment. On the contrary, the educational system has added the educated unemployed to the great numbers of uneducated and unskilled unemployed. While unemployment is in general a cause of unrest in the labour force, the educated unemployed has the potential for greater destructive expression of discontent. In fact our educational institutions become arsenals of explosive manpower for disruption of social order by producing growing numbers of uninvolved idle youth without an attainable employment goal to challenge their spirit and to tax their intelligence in constructive tasks. It is in such a context that vocationalisation of education for improving opportunities of employment becomes an imperative need of the day.

### Vocationalisation

Though at present there is a popular demand for vocationalisation on all sides by economists, sociologists, administrators, parents and even students, preparation for employment had been from early times perceived as an important aim of education, even though only by a few leaders of the public. Education for developing competence in certain kinds of work commonly known as vocational education is therefore not a recent innovation in education. In fact, home science education itself has been looked upon as vocational education in the early stages of its development. What then does this cry of vocationalisation of education signify? Does it imply that vocational education imparted so long has been ineffective or that more new fields of vocational education should be added? If home science education is vocational education, how relevant is any discussion on vocationalisation of this field or any field of vocational education?

Taking up the first question first I would draw a distinction between 'vocationalisation' of education and 'vocational education'. The former to my mind, denotes a movement for orienting the whole of education at all



levels towards developing competencies basic to being employable judging from the numerous discussions pertaining to this term; and the later term signifies specific programmes of training for particular jobs and professions. Vocationalisation in the former sense gained momentum in the wake of increasing awareness of the irrelevance of education given to the young to the life tasks they faced as adults or to the developmental tasks of the nation. Whatever vocational education has been there in the country, though intended to produce employable population, has been inadequate and ineffective for reasons that may be historical, socio-economic or educational.

A historical factor is that vocational education was born of such humble origins as measures to reduce poverty or to promote employment of refugees, destitutes and orphans, and not, as in the case of technology, out of aspirations stirred by new knowledge to attain better quality and more material comforts in life. Vocational education therefore dealt predominantly with manual skilled work and handicrafts and was not on par with higher education leading to more prestigious work like practice of law and medicine.

'Home-making education' in the United States and 'home science' — variously called 'domestic science' or 'household arts' in India, were both introduced for the purpose of increasing the competence of women for their special responsibilities of their home and family life, as well as for pursuing lucrative jobs in the sphere of women's educational movement during the decade of 1920 to 1930, and was meant for improving the social status of India's women. As educational opportunities for women improved and the struggle toward better status for women gained strength, the trend among women to enter the same academic fields on par with men became so strong that any such special education for women as home science lost status, being seen as a discriminatory measure.

From 1944 however due to changed socio-economic conditions three national Education Commissions stressed the importance of education preparing youth for the world of work. Women were considered specially suitable for the teaching profession and teacher training courses began to gain in status in higher education. Especially the recommendations of the Education Commission of the Government of India in 1966 for a work and employment oriented education helped people to shift from placing value on higher education for prestige to placing value on personally and socially

productive education. With this trend vocational education too gained some importance. Even so, vocational education that exists is not adequate, both in extent and effectiveness, to meet the vast demand for skilled manpower at all levels to satisfy the nation's numerous pressing and formidable developmental needs.

It may appear that vocationalisation is not called for in the case of professional or vocational education such as that of engineering, medicine, law or agriculture.

The same may be the case with home science education, if it is seen to be preparation for 'home making' and if 'home making' is considered as a vocation. However, as already indicated earlier, the process of vocationalisation, which has implications for all education is distinct from vocational education. It may be said that it is an educational process that is also essential in making vocational education more effective, and lack of this educational process may be a factor in the poor impact vocational education has made on increasing skilled manpower in India.

#### Concept of the Term 'Vocation'

Whether or not vocational education programmes need vocationalisation and whether home making is a vocation, depends upon the concept of the term 'vocation' which underlies both the idea of vocationalisation and vocational education. It is therefore necessary to examine what the concept of a 'vocation' is according to scholars or public opinion.

The dictionary definition of 'vocation' is that it is a 'call, summons, or impulsion' to perform a certain function, or enter a certain career, especially a religious one; the function or career toward which one believes himself to be called, any trade, profession or occupation. From descriptions in professional literature of the kind of work referred to under these terms certain qualitative differences can be seen.

There are three levels implied by these definitions describing work that varies along a continuum of a psychological attitudinal dimension of "impulsion" or belief about one's relationship with work or occupation. Each term 'call', 'career', 'trade', 'profession' and 'occupation' have come to signify work varying from each other on this qualitative affective dimension of relationship with work ranging from one pole of a very high degree of impulsion — a point of highest intensity of the affective element, to that where the affective element is of least intensity.



## Different types of work placed on a continuum of 'impulsion' to follow a type of work

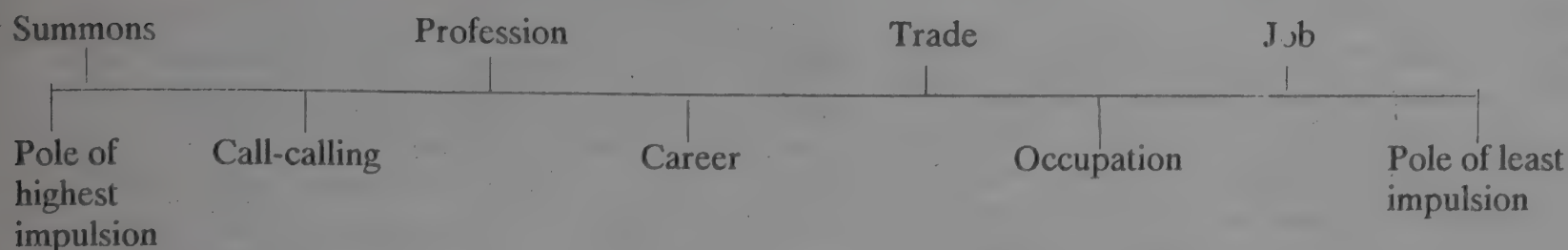


Fig.1

The affective dimension of relationship to work may be said to consist of a moral component — that of personal responsibility in the work. Also implied is an element of personal choice. Both these decrease toward the position occupied by 'job' on the continuum.

The earlier usage of the term 'vocation' connotes an element of inner prompting, a moral binding with the chosen work for bearing the responsibilities arising from it. The term appears to be often applied to work that can be perhaps placed between the position of a "calling" and "career". In literature, usage of the term does not denote work described as a 'job'. In summary, any work becomes a vocation if the attitude towards it contains the components of affect and value and freedom of choice.

Clarification of the concept of 'vocation' is necessary before examining the ways and means of 'vocationalisation' in order to steer the process in the desired direction. Hence this discussion is not merely an academic exercise of hair splitting over the terminology used.

Present usage of the term does not indicate any awareness of a well defined connotation of the term or its scope and implications to preparation of persons for vocations or to vocational education.

If any connotation is indicated, my general impression from various discussions and suggestions on vocationalisation is that the prevailing concept of 'vocation' is work of lower status to that of a profession, as a means of livelihood, specific in nature, and narrow in its philosophical underpinning.

Vocationalisation of home science education will be guided by the concept of vocation held and by the kinds of 'vocations' for which home science can legitimately offer educational preparation.

### Is Home-making a Vocation ?

One can now go back also to examine the question: Is home-making a vocation?" applying the above discussion of the concept of a 'vocation'. For an answer we

can ask "can it be said that the tasks of the home are done freely and more under "impulsion"? Is there a choice about whether to have a home or not ? Is it possible to be without a home life and a home ?

It may be argued that home life is a necessary condition of man's life and there is therefore no choice in the matter. These characteristics disqualify home-making from the category of vocations. Superficially it appears so, but upon closer scrutiny, it is not a question of a simple choice between having or not having a home, but of what concept of 'home' is involved in this choice. If by 'home' a safe shelter for basic biological needs almost at the level of the animal's 'habit' is meant, there is no choice and no question of not needing such a 'home'.

But the concept of the home that the home scientist is concerned with is a complex and flexible home of one's choice. The human home not only varies along a physical dimension, but also along aesthetic, social, psychic, and moral dimensions. Home-making then involves a choice guided by values as to the status to reach on these dimensions and to maintain that status. We see here a choice as to the quality of home-making based on personal value standards, and an assuming of responsibilities to fulfil which home makers are only morally bound.

Home-making therefore can be truly a vocation if there is an impulsion to strive for a chosen level of home-making in all its physical, social, aesthetic, intellectual and moral aspects. Whether, for an individual, home-making is a vocation or not, therefore, can be seen from the person's attitude reflecting responsibility toward and appreciation of the tasks of home-making.

Concluding that home-making can be a vocation if the attitude that marks out a vocation is present, can 'home-making' be a vocation according to the other connotation of 'vocation' being work for a livelihood? I believe it can be, though here it is earning a livelihood in a disguised manner, wrapped in sentiment and under a social compulsion. The woman or man who manages the home earns a livelihood. Where both man and woman earn and share work, both are rewarded by



keeping their earned income to spend on something else.

If home-making is not perceived as a vocation, then vocationalising home science becomes a matter of organising home science education to offer educational preparation for work outside the home that can be taken up as a vocation. There does exist therefore a case for vocationalisation of home science education in regard to work outside the home, similar to work that is done in the home on a small scale, or closely linked to jobs involved in home-making. For example, engaging a child in developmental play in a nursery school or preparing food in a public cafeteria are replications of similar home situations. Counselling a young girl in regard to her marital problems is a task carried on in the home with one's own family but also done at an institutional level. On the other hand, preparation as a hospital nurse or business manager or horticulturist is not considered as a vocational aim of home science education, because the situations are not merely large scale replications of similar home situations, they involve advanced expertise in complex or abnormal situations.

Even if home science as a field of study is aimed at only preparing for home-making in which work done does not directly and immediately affect the economy, the national imperative of educating for productive work that enters the market has to be obeyed, and vocational preparation integrated in a programme of home science education. It is 'vocationalisation' in this sense that is referred to popularly in any discussion on vocationalisation.

#### **For What Vocations Outside the Home Should Home Science Education Prepare Students ?**

A systematic approach to this question will be to consider vocation in relation to each area of home science: such as Child Development, Foods and Nutrition and so on.

Identify the tasks to be done in that area or aspects of living it relates to. For instance, in bringing up children what are the tasks ? One can list a few of them such as :

- Help child to achieve a normal sound physical growth;
- Protect child from home accidents;
- Keep the child adequately and sensibly clothed;
- Test physical health or soundness of physical development through the help of health services.

Working in a health service can be a vocation. For

instance, public health nursing is a career for which there is postgraduate training in England and other European countries and the United States. To protect children from accidents in the home, designing safe furniture, equipment, housing plans, etc. could be taken up as an occupation. One can take up the job of fitting up play-rooms, or nurseries in homes and schools. Designing costume accessories can be a trade. Designing children's clothes, serving as a consultant in choosing clothes for problem situations can all become occupations or jobs. Helping parents to cope up with handicapped children through home visits can be a wonderful vocation.

The list of kinds of work related to home-making tasks need be limited only by the limitation of an educator's ability to identify work that can become a career, a trade, a true vocation, an occupation, or merely a job.

#### **Some Problems Facing Vocationalisation**

Preparing students of home science for these kinds of work is vocational education. One may criticise this approach to vocationalising by asking what would be the use of preparing for work that is not available. For example, there are very few posts of the public health nurse, or firms to employ house designers in India. Such criticism may be valid in the present context but it is also possible to establish a market for any product or service if there is community need for it. Education for self-employment is perhaps a vital contribution to the nation's economic growth and it is none the less vocational education.

Following identification of work related to community needs, the educational programme should be so oriented as to train learners for these kinds of work.

Another obvious difficulty to planning vocationalisation can be that jobs identified can be so numerous that one institution cannot prepare trainees for all but only for a few kinds of work. However, an analysis of educational preparation for many jobs will reveal that when learning is broken down to the operational level of concepts, skills, and attitudes, a few learnings run across jobs and can constitute a general foundational programme of education for a large number of vocations.

On this premise, Staley has suggested a general model for vocational education. He proposes four phases :

General education;



General education and pre-occupational education;

Job entering training and further education;

Career long further training and retraining and further education.

Certain clusters of occupation closely allied in their requirements of skills and traits should be identified. For example, teaching, counselling, salesmanship, and managerial work may all require good skill in communication.

Two Education Commissions of the Government of India and numerous educationists as well as administrators have suggested schemes for orienting education toward preparing for vocations. Examples are the scheme of bifurcated programme in Secondary Schools, offering craft courses, "earn while you learn", "Sandwich courses", "work experience programme", "internship", and so forth.

Another significant aspect of preparing for the work world is that the nature of work keeps changing, due to the rapid social changes, technological advancement, and swift diffusion of ideas. Uncertainty of demands as to level and type of skills and knowledge, the general trend towards organisational levels rather than individual levels of work, and new social values, constantly

affect social change. A scholar of professional education is quoted by Schein as stating that the training of a professional is training for uncertainty.

Schein, in a comprehensive discussion of professional education, points out four important directions of change needed in professional curricula. These are (1) more flexibility — in curricula, by providing, (a) a number of 'paths through school' through electives, pacing and sequence of courses, required period of study, and certification process, (b) varied rules for learning, different careers and support for new role innovations; (2) interdisciplinary career paths; (3) greater integration of behavioural and social sciences such as basic psychology, sociology and anthropology and applied behavioural sciences such as theory and practice of change, diagnostic and analytic exercises of client and professional relationships, learning of professional terms, developing self-insight and social responsibility and learning how to learn. Professional curricula should do a better job of integrating convergent and divergent elements of a profession.

In conclusion it should be emphasized that these and new elements would be perceived in vocationalisation of home science if the concept of 'vocation' underlying vocationalisation includes the dimensions of impulsion, freedom of choice, standards of excellence, a spirit of social responsibility, and service to humanity.

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# Pragmatic Courses and English Language Teaching

D.C. Agrawal\*

Suresh Agrawal\*\*

The English language teaching (ELT) courses have come a long way from traditional-structural courses to communicative courses. The shift from linguistic competence to communicative competence heralds a new era in the field yet it does not seem to be the ultimate solution of the crisis in the teaching of English.

Why have our ELT courses been an utter failure? Can we shine in plumes by borrowing ideas from abroad? (e.g. application of communicative syllabuses in India). Can an effective language teaching take place if we revise our courses in the light of new objectives? These are some the legitimate questions and unless we find answers to these, we cannot proceed further. In order to answer the questions, we need to pose and answer another question: What does learning a second language involve? Most of the people think that learning a second language involves learning its structures and vocabulary. It is this assumption which is the main root of the failure of our ELT courses. The ELT courses which are in use today merely specify the lists of words and grammatical points to be mastered by the learner at the end of the course. In such a syllabus, a teacher's activity is confined only to make the students familiar with a long list of rules with their possible exceptions. It has made English language teaching rather a boring school. As a result most of the students cannot cope with the trend and leave in the middle or stay merely for getting a pass (in the case of English as a compulsory subject).

In fact, the existing ELT syllabuses are not in accordance with the evolving needs of our society. Can we cure this malady by putting communicative courses in their place. The main emphasis of these courses is on intelligibility, perfect and desired communication and acceptability. In such courses, forms and functions are to be paid equal attention to.

The question still remains, will the void be filled up? In fact, the answer, will make one familiar with the inherent dangers of the courses keeping in mind our

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\*Ex-Head(ELT) and Assoc. Prof., Dept. of English, University of Rajasthan, Jaipur.

\*\*Asstt. Prof., Dept. of English, Rajasthan Vidyapeeth, Udaipur.

cultural and environmental background. A vast majority of English language learners are just beginners. Neither they have any immediate need for English. The environment also does not support the use of English (except in the schools, colleges and universities where the medium of instruction and examination is English). Furthermore, English is culturally and structurally different from Indian language and in the case of beginners, it becomes absolutely necessary that grammar, the core element of language be presented in a clear and graded way. Consequently, these communicative courses will result in our transitory intellectual health.

Indeed, neither the structural nor the communicative nor any other courses can be successful as their emphasis is on English for 'intellection' only. This is responsible for the declining standard of English in Indian colleges and schools. Still the emphasis in Indian schools and colleges remains either on the abstract qualities of English or on structuralism. But the need of the hour is to frame our courses in such a way that the language may cope with the dynamic and evolving needs of our society. This is mainly the utilitarian view of language. This utilitarian view of the language is chiefly based on the application of 'Darwinian principles of Evolution'. In academic field, we can trace this pragmatism as pupils study a particular language because of its importance in the economic field, i.e., commerce, business, trade, industry, science, technology and administration etc.

Thus the need for pragmatic syllabuses is obvious. The main objectives of these syllabuses are expression, oral and written, and comprehension either of spoken or written material. English still remains a significant language in academic as well as official and non-official spheres of activity. Language skills will have to be cultivated through a study of excellent specimens of living English both in prose and verse.

The first year course in English should consist of two course units — one devoted to text materials and the other to the cultivation of language skills. As for text materials, there could be four kinds of texts. One of the prescribed texts could be a book of prose passages, consisting of specimens of living English within the range of the students' experience and interests. This



book could be prescribed for intensive study for the purpose of adding to the active and everyday use vocabulary of the student. There would be a second book of prose passages which introduces the students to factual English, to the vocabulary either of physical or social sciences. In this text, passages produced on the vocabulary basic to the course in physical or social sciences could be studied in the class. The third textbook would be for economic English, consisting of prose passages. Living English means the English of everyday use in commerce, trade, business industry etc. The further kind of text material would consist of excellent prose passages on administration, executive, legislature, judiciary, and also the passages on rights and duties of citizens.

If four texts are regarded as too many for the purpose the first two and the last two can be combined into a single book (each). The general aim in the first course unit will be to promote the student's comprehension of reading as well as to expand his vocabulary both active and passive, general and technical so that he may express himself quite efficiently.

The second course unit should be specifically devoted to a cultivation of language skills. No single grammar book is to be permitted in the class. The teacher should devise his own course material. The language skills to be cultivated will include the mechanics of expression, consisting of sentence patterns, spelling and punctuation, vocabulary comprising groups of words. Comprehension introducing the learners to unseen passages in prose and verse, the composition, to encourage the students to write essays consisting of about 300 words, or a letter or dialogue of 100 words; the spoken English—the students should be enabled to realise the multi-syllabic nature of English words and the importance of supra-sequential features e.g. stress intonation etc. The learner must be engaged in day-do-day affairs and be made to narrate his experiences in English. There should be an oral test at the end of the year.

The implementation of these pragmatic syllabuses will also require some changes in our teaching methodology. There has been far too much lecturing at the first year level. There should be minimum of lecturing and maximum of tutorial work at first year level. The teacher should devise his own strategy to utilise the periods for lecturing and for tutorial work. The most important thing is that the lecture period should not be utilised for reading the text. It is to be utilised for imparting fresh information regarding the language.

Nine periods are to be devoted to English language teaching in the first year university class. Many teachers from other disciplines may think that nine periods are

too much to be devoted to the study of English. But these periods are necessary in order to keep our actual achievement upto the mark.

At policy level, the courses emphasise the need of revolutionary change. A consistent and uniform policy of English language teaching should be adopted so that it may no longer be a tool in the hands of politicians for serving their petty political gains. It would also result in the revolutionary change of examination procedures keeping in mind the objectives of the course.

This is how a new orientation can be given to the study of English at first year level and make it a success. In fact, the deterioration of English language teaching is an alarm for our educational system and if this stagnation continues, the crisis in the teaching of English will develop into a crisis in our higher education itself, "for English is also the medium of instruction and examination in almost all our prestigious universities".

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2. Besides qualifying through BIOMEET/GATE, the candidates must satisfy other requirements before admission.



# A Fascinating Voyage

Eminent Physician and Cardiologist, Prof K. S. Mathur, Emeritus Professor of Medicine, S. N. Medical College, Agra, delivered the address at the Institute Day Function of the Institute of Medical Sciences of the Banaras Hindu University. Covering a rather wide canvas, Prof. Mathur spoke of the nature of medical education and the obligations of physicians to the patients, society, colleagues and themselves. Speaking of the universal and eternal nature of his profession, he said, "you have embarked on a fascinating voyage leading to harbour of one of the most dynamic professions with highest potential for greatness. Your labours are linked with those of your colleagues, who preceded you in history and those who are now working all over the world. It is this spiritual unity with our colleagues of all periods and of all countries that has made medicine so universal and eternal. This is the only profession that still speaks of its duties in this world of today, in which almost everyone else speaks of his rights". Excerpts

I feel thrilled, inspired and humble as I stand on the soil of Varanasi — a seat of learning, our culture and our civilization from times immemorial; which in the course of centuries has attracted the saints, philosophers and poets of India to make Kashi the heart of all that India felt and aspired for. It was at Varanasi that the great *Vyas* wrote *Mahabharat*, *Shankar* obtained real light and preached his *Advaita* philosophy, *Lord Buddha* after Enlightenment preached his Sermon at Sarnath, and *Tulsidas* composed his *Ramayan*, the *Ram Charit Manas*.

The contribution of Banaras to medical education is no less exciting. During the Buddhistic period two main centres of learning were available to medical students. There was one centre at Taxila with *Atreya* as the teacher of medicine and one at Banaras with *Susruta* as the teacher of surgery and medicine. *Susruta* gave more importance to surgery and is rightly referred to as the Father of Indian Surgery. His contributions to surgery as far back as six centuries before Christ leave

us truly aghast. Over 100 varieties of surgical instruments, blunt and sharp, including present day scalpels, scissors, needles, probes, trocars, catheters, syringes and speculae were mentioned and employed by *Susruta*. He gave lucid description of tonsillectomy, operation for piles, prolapse fistulae and bladder stones, removal of cataract, excision of tumours and plastic operations on the nose and ears. Fifteen types of plastic operations alone were described by him in those days. Experimental surgery was practised on distended bags, fruits and dead animals. Employing wines and fuming hemp for preoperative anaesthesia *Susruta* encouraged strict cleanliness during operations, pregnancy and labour. He compiled *Susruta Samhita* in Banaras itself.

Admission to the school of Medicine was apparently more difficult than it is today. The prospective medical student had to have a good personality and face, a clear voice, perfect senses, noble nature, mild disposition, excellence of char-

acter, devotion to duty, freedom from vices and addictions, liberty of thinking, studious habits and devotion to the theory and practice of medicine.

The selection of teacher by the student, a luxury denied to present day student was even more exacting. The teacher had to be clever, compassionate, experienced well versed in medical writings, pure of conduct, well affected towards disciples, fond of teaching, capable of communicating ideas and free of malice wrathful disposition. The course of medical training in ancient India used to extend over 6 years, not more than 4 students being enrolled under one person at a time.

I pay homage to *Pandit Madan Mohan Malaviya*, the great visionary, educationist and patriot, who as a Vice-Chancellor of Banaras Hindu University introduced integrated teaching in Ayurveda and Modern Medicine to combine the best in the Western Scientific thought and the Eastern traditional wisdom in 1920, which has now blossomed into Institute of Medical Sciences and Postgraduate and Research Centre in Indian Medicine in the same campus of the University, where medical education is imparted along with other sciences in an atmosphere of research.

The rapid strides that your Medical Faculty has made during the short span of three decades, since the starting of Medical College in June 1960, is to my mind chiefly due to the Medical Institute being located in the campus of the University along with other science faculties and has been functioning under its full administrative control.

Medical education imparted along with other sciences in the University environment always makes quick progress, for here the emphasis to research is as much as



to teaching. This is collaborated by the experience of Germany in the middle of 19th century, when medical teaching in Germany rose to heights never before obtained in the history of that time intimately related to scientific and technological advancement that Germany had made during that period. This model was followed later by U.S.A. and Scandinavian countries with similar revolutionary changes. The proposed Medical University for all the medical colleges of Uttar Pradesh, instead of handing them over to universities, does not seem to be a healthy development.

Ever since the day you decided to join the medical profession, you have been wrapped in the colourful fabric of the history of medicine, a fabric woven from the ideals, wisdom, endeavours and achievements of our glorious predecessors in medicine.

Your own contributions to medicine can begin in the golden years of student life. There is no need to wait for your medical degree to start making medical history. Many physicians while still students made historic contributions to medical sciences: *Vesalius, Stensen, Laennaec, Remak, Freud, Best*; men who believed in themselves and were dedicated to the profession you have chosen for your own.

You have embarked on a fascinating voyage leading to harbour of one of the most dynamic professions with highest potential for greatness. Your labours are linked with those of your colleagues, who preceded you in history and those who are now working all over the world. It is this spiritual unity with our colleagues of all periods and of all countries that has made medicine so universal and eternal. This is the only profession that still speaks of its duties in this world of today, in which almost everyone else speaks

of his rights.

An ideal of service permeates all our activities; service especially to our patients, as fellow creature isolated on the Island of his suffering whom you can only restore to the mainland of health. The profession demands much more than to prescribe pills and injections or to patch up or repair torn flesh or bones and shattered mind. You have to be an intermediary between man and God.

An important change has been brought about in the concept of medical education with increasing realisation of interdependability of medicine and society. Medical science is intrinsically and essentially a social science, and as long as this is not recognized in practice we shall not be able to enjoy its benefits. First, the health of the people is matter of direct social concern and that society has an obligation to protect the health of its members. Second, social and economical conditions have an important and in many cases crucial impact on health and disease. Poverty is still the main social cause of disease.

The aim of education should therefore keep in view the current social setting as well as requirements of the future social structure of a developing country. However as *John Cooper* observed "We have to recognize that academic institutions are slow in shaping social behaviour even though they are at the forefront in contributing to scientific and technological development. The academic medical centre can play an important role in social changes by virtue of its unique capacity for bridging the traditional scholasticism of the University and the practical realities of daily life in the community."

To practice the concept of medicine as a social science new

subjects such as human ecology, population dynamics, epidemiology, social science, geriatrics, community health care and biostatistics are being added to the curriculum.

This poses a challenge to the Faculty to replace or eliminate deadwood before introducing plants of newer knowledge, especially in the traditional educational institutions, which are resistant to any significant innovations in newer educational methods and curricula.

There is no denying that the chief change which the curriculum has undergone at undergraduate level during the last few decades is that it has become fuller and fuller and heavier and heavier. Every year something has been added and little or nothing has been removed. Is it small wonder that at the end of present day course a considerable number of our students are intellectually stunned. They are bulging with facts what they have memorized, but their imagination, their originality and their initiative have suffered in consequence.

*Lord Moran* once said "we cannot make a man a safe doctor by stuffing him with facts. We have to awaken the power to reason, to criticise, to appraise which lies dormant in most students". In medicine truth is not absolute, it does not remain the same tomorrow as it is today. Such being the case, it is our duty to educate the minds of our young men, not only fill them with facts. The aim should be to give the student a basic professional education of high standard, on which any branch can be grafted later. Both for the future general practitioner and for the future specialist, factual knowledge is in the long run less important than the ability to learn and go on learning.

The doctor alone today cannot meet the health needs of a nation,



mainly due to the shortage of medical manpower. Training of auxiliary personnel, the health assistant for example, is the only way by which one can meet the growing demand, because they would give the necessary support and should work as a team with the medical man as Team Leader. Time has come when we should create "Faculties of Health Sciences" replacing the traditional "Faculties of Health Medicine".

"A doctor is an instrument of love, compassion and service" said Mother Teresa. She went on to say that "If he or she is not able to give this, the person concerned should give up being a doctor".

Your obligations as a physician go beyond the exercise of technical proficiency. You have an obligation to your PATIENTS to provide emotional comforts and support even when medical science can do little for them; for you can cure them sometimes, and you can give them relief often but hope you can give them always. Remember that a laboratory report is not an irrevocable sentence. A haematological report, an electrocardiogram, electroencephalogram or roentgenogram may supply vital information on the organic working of the body, but it is even more vital never to forget, that behind all such reports and data, there is a human being in pain and anguish to whom you must offer something more than a pill, an injection or surgical aids. You must with your attitude, your words and your actions, inspire confidence and faith and give understanding and consolation. Hold to the idea that compassion must accompany your skills in biomedical science. You are physicians not procedurists; You are healers not fixers : Follow the golden rule of Medical Ethics "Do what is best for the patient". Put another way "Do what you would

want done for you if you were the patient.

Your duty to SOCIETY is to the idealists, not hedonists; as physicians to accept your profession as a service to mankind, not as a source of profit; as investigators to seek the knowledge that will benefit your fellow beings; as clinicians to alleviate pain and heal the sick; as teachers to share and spread your knowledge and always because you are imbued with an ideal of service and not the ambition of gain or fame. Thus will you maintain the dignity of our profession as a social science applied to the welfare of mankind.

To your COLLEAGUES you have the obligation of civilized man sharing a great and noble task and fighting for a common cause in a great crusade. Medicine lives and is nourished by the great social prestige it enjoys. Hence never speak ill of a colleague, since to do so would be the same as speaking ill of medicine and therefore of your own self. If you have something good to say about a fellow physician, say it everywhere; if you have not keep

silent. You belong to a team of gallant professionals of all races and eras, bound together across the ages and continents by a glorious ideal.

Finally you have obligation to YOURSELF. Everyman in his youth forms an ideal profile of himself or of what he wants to be. Your life, your work and your personality as a physician must be such that your ideal profile of yourself will be filled in with brilliant achievement. Let Dedication, Devotion, Discipline, Discretion and Determination be your 5 D watch words in all that you do and you are sure of success.

I will conclude by exhorting our young medicos that the important thing in life is to be great, not big; a great man, not a big man. Let your actions be great, but preserve your personal modesty and humility. What counts in a man and in a physician is his greatness. By greatness I mean grandeur in the things we do and simplicity in the way we do them, doing things that influence the lives of many of people, but preserving always the greatest personal simplicity.

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## West Zone VCs Meet

A Conference of West Zone Vice-Chancellors was recently hosted by the Yashwantrao Chavan Open University at Nashik. Inaugurating the Conference the Maharashtra Governor Shri C. Subramaniam lamented a steep fall in the standards of education in the last quarter of the century and called for introduction of selective admissions into the higher education system with necessary safeguards for the weaker sections of the society.

Shri Subramaniam, who is also the Chancellor of the universities in the state, suggested it would be necessary to consolidate and strengthen the existing institutions and restrict admissions to only those who can benefit from higher education strictly based on talent and aptitude. It would be worth considering whether we needed to expand our facilities for higher education as rapidly as we were doing now or consolidate and strengthen the existing institutions by providing the required infrastructure facilities, he said.

Students belonging to the socially backward classes require some special treatment by way of reservations. But even here special care should be taken to upgrade their standards by providing special coaching, to check high rate of failures and huge wastage of our scarce resources, Shri Subramaniam pointed out. He asked whether the govt. should go on subsidising higher education when it was not in a position to fulfil its constitutional obligation of providing free and compulsory education to all upto the age of 14 years and resources were needed for other development sectors, merits serious consideration.

He stressed the need of some hard political decisions regarding

suggestions like introduction of the system of double pricing under which the poor would get free education, reduction of subsidies, selective admissions, measures to delink jobs from degrees, protection of university autonomy and full political support without political interference etc.

Instead of restricting students to the conventional classroom and laboratory teaching, Shri Subramaniam stressed the necessity of evolving closer linkage between the universities, industry and research institutions with a view to raise the standards both in teaching and research.

The conference was held in two sessions. Dr. S.C. Gupte, Vice-Chancellor, University of Poona chaired the first session while the second session was chaired by Dr. Ms. A. S. Desai, Director, Tata Institute of Social Sciences. The general items discussed in the first session included (i) Autonomy of the University; (ii) Tenure of the Vice-Chancellor; (iii) University Finances; and (iv) Inter-University Transfer of Services.

1) With regard to University Autonomy, it was noted that in a recent judgment the Supreme Court had declared the University to be an autonomous body, not under the control of the State Government. Another allied matter that came up for discussion was the application of the Industrial Disputes Act to a University set-up, Since it was causing serious difficulties, it was felt that some kind of dialogue, a memorandum of understanding, had to be arrived at between the State Government and the University and also between the students and the University. Prof. S. K. Agrawala drew attention to a judgment of the Supreme Court wherein

Justice Venkatramiah has observed that education cannot be treated as industry. However, this observation has to be taken with caution. (See S. N. Singh. Teachers as Workmen. *University News* 3rd July, 1989).

2. Concern was expressed over the political interference with regard to appointment of Vice-Chancellor. In some States the services of the Vice Chancellor could be terminated at the pleasure of the Chancellor. It was generally felt that this situation needed improvement. It was suggested that there should be a code of conduct for political parties, but since this was not practicable, it was generally believed that at the most, an appeal could be made to the political parties to refrain from interfering in university affairs.

Linked with this concept of interference, another problem, the difficulties experienced by some Vice-Chancellors on account of the media personnel, specifically the press was mentioned. It was suggested in this connection that in the event of a problem of this nature, it would be advisable to make a complaint to the Press Council of India since there were laid down standards and guidelines of professional ethics in this regard.

3. The University finances were in a bad shape and to overcome this difficulty a strategy for improving financial resources was called for. It was felt that 'development grants' should not necessarily be under the State Government. Rather the U.G.C. should give such 100% grants for development and undertake non-state-aided programmes.

4. It was felt that mobility of University/College teachers was adversely affected in view of losses suffered by them in terms of salary and retirement benefits as their service outside the State was not counted towards these benefits. It was therefore agreed upon that the Vice Chancellor from every State should



write to the Secretary, A.I.U. and inform him about the position in his State. Detailed information would then be collected along with a copy of the Govt. order regarding inter-University and inter-State transfers and this would be circulated to all member-universities of the A.I.U. The President, AIU, also authorised the Secretary, AIU to take such action in the matter of getting relief for teachers and other employees as was considered necessary.

The second session of the Conference discussed the following items :

1. Offering scholarships to outside university students for M.Phil and Ph.D. programmes.
2. Providing facilities for staff members of outside universities for carrying out teaching and research.
3. Promoting student mobility by encouraging students to take their second postgraduate degree from another university.
4. Allowing accumulation and transfer of credits for some courses from one University to another.
5. Using course-material developed by other Universities and Colleges.
6. Co-operative efforts in developing course-material.
7. Management of Universities : Professionalism, Decentralisation, Work Ethics.
8. Inclusion of new subjects in competitive examinations.

After detailed discussion the consensus that emerged is given seriatim.

1. It was felt that an All-India pattern for M.Phil. and Ph.D. should be evolved rather than considering the matter on a purely inter-university basis. This could be achieved by an All-India competition after inviting applications from all over the country. This would however be subject to a provision for an All-India finance.

2. It was felt that Universities were yet to develop these facilities

due to paucity of funds. Even the UGC benefits were not available easily largely due to inadequate information and poor communication received from the U.G.C. It was therefore, suggested that the U.G.C. should regularly publish an annual document with updated information regarding all the available schemes and facilities.

3. Although it was generally felt that universities should encourage and motivate this kind of student-mobility, there were important factors like finances etc. to be considered. It was suggested that as the Agricultural Universities had the advantage of ICAR fellowships and scholarships to promote such mobility, the U.G.C. funds would have to be tapped by other universities.

4. The idea was that a full-time student of some university, should be able to take some courses from other universities and gain credit for them.

It was also stated that credit-transfer would presuppose some commonness in course-content and general course-compatibility.

By and large, the idea was found generally acceptable, though the modalities would have to be worked out. For this purpose, an approach paper would have to be prepared and presented.

It was also suggested that the A.I.U. should prepare and maintain a database on the various courses offered by different universities along with their evaluation.

5. There was general consensus that such exchange of material should be encouraged, though the merit of the material would have to be considered. The greatest difficulty in the implementation of this idea, was lack of information. It was therefore suggested that the 'University News' should contain information regarding any new course-material developed.

6. This, it was felt, would be state-bound. Important, newly-emerging areas could be identified and their syllabi defined on a collaborative basis. The Joint Board of Vice Chancellors could decide strategies and policies. By and large, this item was accepted in principle. AIU may

request the Chancellor and Vice Chancellors in a state to take up the issue in the larger interest of higher education.

7(a) It was suggested that a professional Management Manual for a University be developed. The Vice Chancellor of Goa University was requested to prepare this manual. The A.I.U. would undertake Regional Training Programmes in this connection. This would be similar to the idea of Administrative Staff Colleges as implemented at Chandigarh.

Another suggestion made in this regard was that the administrative pattern in most universities was derived from that existing in the Governmental set-up. It would, perhaps, be necessary to evolve a new pattern which was less hierarchical, more office-oriented and in a sense, more consultancy-oriented. It was suggested that 2/3 delegates could prepare conceptual reports and present them for discussion.

(b) Decentralisation, it was felt, should occur at two levels : at the level of the college (Autonomy) and at the University departmental level. A decentralised system, it was believed, should lead to increased accountability. Hence, it was necessary to develop some alternative models of a university which would not only decentralise the power-structure but also create a climate for the decentralised administration of a university.

(c) Though it was felt that there should be disciplinary rules for the academic staff, it was believed that merely having rules and laws would not suffice. It was necessary to create some kind of awareness regarding work ethics.

8. There was general agreement regarding the necessity of including certain new subjects and courses in competitive examinations. Agricultural courses, Social Work, etc. were some of the areas suggested for inclusion.

Methods for the listing of new subjects would have to be worked out. The A.I.U. could develop its own mechanism for collating information from different colleges and determining priorities.



Need for possible linkages and collaborative attempts between Agricultural Universities on the one hand and Open and General Universities on the other, was stressed. A suggestion was also made regarding incorporating agricultural courses in the curriculum of traditional universities. The efforts of the Yashwantrao Chavan Maharashtra Open University in harnessing agricultural technological advances in the design of courses, was commended.

17 Vice-Chancellors from different parts of the region including Prof. Ramlal Parikh, President A.I.U. attended. The Conference was also attended by Prof. V. C. Kulandai Swami, Vice-Chancellor, IGNOU and Prof. S.K. Agrawala, Secretary A.I.U. The presence of Prof. G. Ram Reddy, Vice-President, Commonwealth of Learning, Vancouver (Canada) on the occasion was indeed very welcome.

### **Refresher Course in Modern Arabic**

The Academic Staff College of the Calicut University, in collaboration with the Department of Arabic organised a 4-week Refresher course in Modern Arabic for the teachers from southern and eastern regions. The course was inaugurated by Mr. Muhyuddin Alwaye, former Professor of Madcena University in Saudi Arabia. The faculty for the refresher course included Dr. Mohamed Rashid, Professor and Chairman, Aligarh Muslim University, Dr. Mueenuddeen Azmi (Retd. Professor, J.N. University) and a galaxy of eminent teachers.

Every participant was required to present a research paper which was open for discussion. A seminar on "Ways and Means for Improving the Standard of Arabic at the University level" was conducted. As part of the programme screening of a film in thirty episodes of one hour duration each on the famous scholar and reformer Syed Rasheed Rida was also arranged. The film brought the latest language and usages in Modern Arabic, to the participants.

A study tour was conducted to two important advanced centres of

Arabic viz., Islamiyya College, Santapuram and Jamia Nadviyya, Edavanna where the participants held discussions with the teachers and senior students.

The participants were given three volumes of the book "A' lamu al-Nathri Wa al-Shiri fil Arabi al-Asri al-Hadith" written by Mohamed Yousuf Kokkan as the reading material.

### **Workshop on Women & Health**

The Department of Home Science and Women's Studies Cell of the S.D. College, Muzaffarnagar, organised a three day Functional Workshop on Women & Health. Sponsored by Voluntary Health Association of India (VHAI), New Delhi, the workshop was inaugurated by Dr. L.N. Mittal, Principal of the college. The basic objective of the workshop was to impart knowledge, aptitude and practices to make girl students change-agents for the community Health programmes in rural areas and urban slums.

Dr. Mittal in his address highlighted the problems of women's health in India and the tragic situation of discrimination, deprivation socio-economic injustice that begins at birth and follows throughout the life, of all the factors associated with growth, the improvement of the lives of women, in their status, in their emancipation, in their education, in their health, in their acquiring knowledge and their right to decide for things concerning them.

The topics discussed at the workshop included MCH, U5MR, sanitation, water borne diseases, anemia, nutrition, early motherhood, breast feeding, PCM etc. Dr. Amla Rao, Consultant, VHAI was the Coordinator of the workshop which was attended by 37 girl students and Lady Principals.

### **UNESCO Literacy Award for West Bengal**

UNESCO will award International Literacy Prize of \$ 10,000 to

West Bengal Government for 1991 in recognition of the significant initiative taken to launch the mass campaign for total literacy and in particular the achievements made in Burdwan and Midnapore districts.

Entitled NDMA the prize is one of the five instituted by UNESCO under the International Literacy Award given annually for achieving special success in the fight against illiteracy.

UNESCO's King Sejong Literacy Award of pound 30,000 was given to Kerala Sastra Sahitya Parishad last year. Both prizes were given under the recommendations of the Indian National Commission for Cooperation with UNESCO.

### **M.A. in English Language Studies**

The Madurai Kamaraj University has introduced the M.A. course in English Language Studies giving equal importance to all the three functional aspects — teaching, research and extension. One of the novel features of this course is the incorporation of literacy drive as part of the course work, than treat it as an activity peripheral to the main course work.

M.A. in English Language Studies treats mass literacy programme as one of the projects with topics such as "Problems of teaching secondary skills to the speakers of a native language." Such academic topics give a research bias to the work, and the inclusion of such topics serve two major purposes for the MA students — exposure to an illiterate community, and partial fulfilment of internal assessment requirement with ample scope for scoring high grades. Teaching the illiterates together with a report on some of aspects of the experiment is treated as equivalent to a project/seminar/term paper. This treatment, far from causing dilution of standards as some critics fear, is expected to add insights into language learning processes by adults.



## News from Agril. Universities

### Pest Management Workshop

Dr.Khem Singh Gill, Vice-Chancellor, Punjab Agricultural University, while addressing the concluding session of the National Workshop on 'Integrated Pest Management in Wheat' organised by the university recently said that since field crops continue to be threatened by insect-pest diseases and weed, plant protection measures would have to form an essential component of any strategy for increasing crop yield per unit area. The Vice-Chancellor suggested that in addition to chemicals used for plant protection, cultural and biological methods should also be integrated to keep the pest population under check. He cautioned against the excessive use of chemicals for plant protection as these were very injurious to human and animal health and led to environmental pollution.

Dr.G.S.Gill, Director of Extension Education of the PAU said that

weeds particularly the phalaris minor and wild oats had become a problem in wheat. He stressed that control measures against these weeds should be adopted strictly as per recommendations of the University and said that a yield of 45 quintals of wheat per hectare could be achieved by following the recommended practices.

Dr.O.P.Malhotra, Associate Director of Wheat Production Technology of the PAU in his report said that the programme of the Workshop consisted of 20 lectures, four practicals and visit to various regional research stations and departments of the University.

Sixteen delegates from Madhya Pradesh, Haryana and Punjab attended this week long workshop which was sponsored by the Directorate of Extension of the Union Ministry of Agriculture.

**26.9.91**

"Journey of the Magi"

"Aesthetic Processes in Literature & Music - I"

**27.9.91**

"Stellar Universe"

"Women in Epics : An Interpretation"

"An Energy Called IZONOS"

**28.9.91**

"Rasa Ranjita - Understanding Indian Dance - 4 : Bharatnatyam -I"

"Rehabilitation of Disabled Children : A Human Factor"

"Career Guidance Education"

**29.9.91**

No Telecast

**30.9.91**

"Prof. V.M. Dandekar on Right to Work"

The Pursuit"

### Ind Transmission

4.00 p.m. to 5.00 p.m.

**23.9.91**

"Remote Sensing - A Curtain Raiser"

"Optical Alignment - III"

**24.9.91**

"Molecular Spectroscopy Chemstudy"

"Sources of Knowledge"

"Insecticide Impregnated Bed-nets for Malaria Control in the North Eastern India"

**25.9.91**

"Treasure Chamber Germany"

"India An Idea"

"Bio-Technology and Its Applications"

## News from UGC

### Countrywide Classroom Programme

Between 23rd September to 30th September 1991 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The Programme is available on the TV Network throughout the country.

#### 1st Transmission

1.00 p.m. to 2.00 p.m.

**23.9.91**

"Remote Sensing - IV : Sensors"

"Grain Q"

**24.9.91**

"Life Line"

"The Halogens"

**25.9.91**

"Non-Conventional Energy Sources -I : Solar Energy"

"Child Welfare"



**26.9.91**

"Memories"

"Phosphate Rock"

"Shakespeare : His Life and Works - II"

**27.9.91**

"Sampling - II"

"Self-Esteem in Children - II"

"Plants in Your House"

**28.9.91**

"Laser"

"Ikebana"

"Sustainable Development - I"

**29.9.91**

No Telecast

**30.9.91**

"Prof. V.M. Dandekar on Right to Work"

"The Pursuit"

### **Another Fake University — Sant Ravidas Vishwavidyalaya**

The University Grants Commission (UGC) has restrained Sant Ravidas Vishwavidyalaya, Mumreja (Ahmedgarh), Bulandshahr (U.P.) from associating the word 'Vishwavidyalaya (University) with its name and awarding degrees to its students as it is not a statutory university. Under the UGC Act, 1956 the right of calling itself a university (Vishwavidyalaya, Vidyapith) and conferring or granting degrees could be exercised only by a statutory university (Vishwavidyalaya/Vidyapith) established or incorporated by or under a Central Act, a Provincial Act or a State Act or an institution deemed to be a university or an institution especially empowered by an Act of Parliament to confer or grant degrees.

The self-styled Sant Ravidas Vishwavidyalaya belongs to none of these categories and it is, therefore, functioning in contravention of the provisions of the UGC Act. Students are advised not to seek admission into this institution in pursuit of academic degrees.

The Commission, apart from taking other appropriate actions, cautions students from time to time through mass media against self-styled and fake universities operating at various places in the country. 26 such fake universities have already been identified and necessary follow up action taken by the Commission.

## **News from Abroad**

### **CIES Annual Conference 1992**

The annual conference of the Comparative and International Education Society (CIES) will be held at Annapolis, Maryland (USA) on March 12-15, 1992. The theme, "Crisis in the Quality of Education", will focus on the debates over policy reform surrounding the improvement of the quality of education. The seminar will explore the theme in three categories of countries: developing countries, OECD countries, and the Soviet Union and former socialist countries in Eastern Europe.

The topics proposed to be debated are: the degree to which the education system is able to prepare students to meet occupational changes resulting from shifts in science and technology; the political difficulty of identifying and rewarding excellence in teaching; the appropriate role of government and the public sector in financing and providing for skills specific to a vocation; and the pedagogical use of teaching in a mother tongue versus another language which may better serve to socialize students into a national culture.

The questions likely to arise include :

- To what extent are the problems perceived to be the same across

the three categories of countries?

- To what extent do the problems and solutions differ from one category of country to another? Why do they differ?
- To what extent do the problems and solutions differ within the three categories of countries, for example, between Japan and the United States or between the U.S.S.R. and Poland?

Further details can be had from Mr. Stephen Heynemam, CIES Conference, The World Bank, 1818 H St. N.W., H-8047 Washington D. C., 20433 USA.

### **NIAS Fellowships 1993-94**

The Netherlands Institute for Advanced Study in the Humanities and Social Sciences (NIAS) in Wassenaar offers 40 or more Fellowships each year. Scholars who have already made a significant contribution to their field and who are able to take time off from their teaching and administrative responsibilities are given the opportunity to immerse themselves completely in their work for a ten-month period, running from 1 September to 30 June, alone or as part of a research theme group.



Presently, NIAS is inviting scholars to apply for the Fellowships available for the year 1993/94 and later years. Fellowships are awarded either for individual research or for research combined with participation in a research theme group.

Once a year a special Fellowship, the Golestan Fellowship, is awarded to a scholar engaged in interdisciplinary research in the medical or biological sciences.

Applications should be submitted at least 18 months prior to the beginning of the fellowship year for which one wishes to apply.

The facilities of NIAS Fellowships include :

- a stimulating, international, scholarly community
- a private office, equipped with a personal computer, which is connected to local and external networks
- a library service
- secretarial assistance
- programme of scholarly activities
- programme of social activities
- housing facilities
- assistance in seeking enrolment in schools for Fellows who bring along their families with children of schoolgoing age.

Fellows from universities or institutes outside the Netherlands receive financial stipends on an individual basis, which allow them to live in reasonable comfort while at the Institute. In addition, travel costs to and from NIAS are reimbursed once. Fellows from the Netherlands are entitled to financial assistance to offset part of the costs of their stay at the Institute and they are compensated for travel expenses.

Applicants should hold a Ph.D. degree in the humanities or social sciences.

Since NIAS is a residential institute applicants should be in a position to be at the Institute during the full ten month period, running from 1 September - 30 June.

Fellows are selected by the Scholarship Committee, which takes into account the potential contribution that a given research plan will make to the advancement of international scientific study. The

Committee also determines if the candidate's research proposal meets the requirements of the Institute: an advanced level of research, requiring a period of concentrated thought; international participation; and the need for a multidisciplinary, scholarly environment.

For more information and application forms for Fellowships please write to: NIAS, Selection Office, Meijboomlaan 1, 2242 PR Wassenaar, Netherlands.



## INDIRA GANDHI NATIONAL OPEN UNIVERSITY

**Schedule of Telecast for the Period 1 October to 31 October**  
**6.30 AM to 7.00 AM**

Date/Day	Academic Programme	Title
2 Oct. Wednesday	Computers in Office Management (DCO)	Communication in the Office Part II
4 Oct. Friday	Management (DIM/ADIM)	Computer Software
7 Oct. Monday	Bachelors Degree Programme (BDP)	Itihas Ki Khoj Mein
9 Oct. Wednesday	Diploma in Creative Writing in English (DCE)	Travel Writing
11 Oct. Friday	Management (ADIM)	Corporate Planning
14 Oct. Monday	Bachelors Degree Programme (BDP)	Historiography
16 Oct. Wednesday	Bachelor of Library & Info. Science (BLS)	Library Cataloguing Practice Part 5B
21 Oct. Monday	Bachelors Degree Programme (BDP)	Adhunik Bharatiya Itihasankan Evam Lekhan
23 Oct. Wednesday	Diploma in Distance Education (DDE)	Multi-Media in De — Part I
25 Oct. Friday	Management (ADIM)	Managerial Challenges in the 90's — Part II
28 Oct. Monday	Bachelors Degree Programme (BDP)	Reed Ki Haddi
30 Oct. Wednesday	Computers in Office Management (DCO)	Communication in the Office Management — Part III



# INTER-UNIVERSITY TOURNAMENTS, 1990-91

## RESULTS

### GAMES PLAYED ON ALL INDIA BASIS

S.No.	Games	Venue	Winner	Runner	III	IV
1.	Ball Badminton(M)	Bharathiar	Bharathidasan	Kerala	Sri Venkateswara	Pondicherry
2.	Ball Badminton(W)	Bharathiar	Mahatma Gandhi	Calicut	Kerala	Bangalore
3.	Chess	Magadh	Patna	Bangalore	Delhi	Osmania
4.	Cricket (W)	Delhi	Poona	Delhi	GNDU	Gujarat
5.	Cycling	PAU, Ludhiana	Punjabi	PAU	Panjab	—
6.	Football (W)	Goa	Manipur	Goa	GNDU	Panjab
7.	Boxing	Delhi	MDU, Rohtak	Osmania	Kurukshetra	Delhi
8.	Gymnastics (M)	LNCPE	Jiwaji	Panjab	GNDU	Bombay
9.	Gymnastics (W)	LNCPE	Jiwaji	Kurukshetra	GNDU	Delhi
10.	Judo (M)	Kurukshetra	MDU	Bombay & Delhi	Kurukshetra	Panjab
11.	Judo (W)	Kurukshetra	Delhi	Bombay	GNDU	Kurukshetra
12.	Hockey (W)	Amravati	Panjab	Mysore	MGU	Delhi
13.	Korfball	Vacant	N O T	H E L D		
14.	Rowing (M)	Anna	Madras	Calcutta	Poona	Dr. M.G.R.
15.	Rowing (W)	Anna	Madras	Poona	Calcutta	Osmania
16.	Squash Rackets	Roorkee	Bombay	Poona	Delhi	IIT, Delhi
17.	Wt. Lifting	Poona	GNDU	Mangalore	Punjabi	—
18.	Best Physique	Poona	Poona	Karnatak	Delhi	—
19.	Wrestling	Kanpur	Meerut	Shivaji	BHU	Delhi

### GAMES ON TWO ZONE BASIS

S.No.	Games	Zone	Venue	Winner	Runner	III	IV
1.	Basketball (W)	NE	Jamia	Jamia	Punjabi	Kurukshetra	HPU, Shimla
		SW	Madras	Calicut	Poona	Madras	MGU
		AIF	Madras	GNDU	Calicut	Madras	MGU
2.	Handball (M)	NE	PAU	PAU	GNDU	HPU	Jammu
		SW	RDU, Jabalpur	RDU	MGU	Osmania	Andhra
		AIF	PAU	PAU	Nagpur	GNDU	Andhra
3.	Swimming (M)	NE	Calcutta	Delhi	Calcutta	—	—
		SW	Kerala	Kerala	Calicut & Bombay	MGU	Karnatak
		AIF	Kerala	Kerala	Calicut	Bombay	MGU
4.	Swimming (W)	NE	Calcutta	Delhi	Calcutta	—	—
		SW	Kerala	Kerala	Bangalore	MGU	Poona
		AIF	Kerala	Kerala	Bangalore	Poona & Delhi	MGU
5.	Water Polo	—	Kerala	Poona	Kerala	Calcutta	—
6.	Tennis (W)	NE	Delhi	Delhi	Punjabi	Panjab	GNDU
		SW	Mysore	Mysore	Osmania	Calicut	Bharathidasan
		AIF	Mysore	Mysore	Osmania	Madras	Anna
7.	Handball (W)	NE	PAU	Punjabi	Panjab	GNDU	PAU
		SW	RDU, Jabalpur	Calicut	RDU	Poona	Bombay
		AIF	PAU	Nagpur	Punjabi	Calicut	Panjab



# GAMES PLAYED ON FOUR-ZONE BASIS

S.No.	Games	Zone	Venue	Winner	Runner	Losing Semi-Finalist	
						Lost to Winner	Lost to Runners
1. Athletics (M)		North	GB Pant	Kurukshetra	Delhi	GNDU	—
		East	Kalyani	Rabindra -Bharati	Purvanchal	Ranchi	Burdwan
		South	Mangalore	Kerala	Annamalai	Calicut	—
		West	Jiwaji	Jiwaji	Bombay	Amravati	—
2. Athletics (W)		AIF	Kalyani	Delhi	Kerala	Calicut	—
		North	GB Pant	GNDU	Panjab	HPU	—
		East	Kalyani	Utkal	Burdwan	Rabindra Bharati	—
		South	Mangalore				
3. Badminton (M)		West	Jiwaji	Bombay	Shivaji	Nagpur	—
		AIF	Kalyani	MGU	Calicut	Bombay	—
		North	Panjab	Meerut	Panjab	Lucknow	Kurukshetra
		East	OUAT	Utkal	Manipur	Calcutta	Jadavpur
4. Badminton (W)		South	Sri Krishnadevaraya	Calicut	Mysore	Madras	Andhra
		West	Amravati	Bombay	Sardar Patel	Poona	Amravati
		AIF	OUAT	Meerut	Calicut	Delhi	Sardar Patel
		North	— N	O	T H	E L	D —
5. Cricket (M)		East	OUAT	Jadavpur	Burdwan	Utkal	Guru Ghasidas
		South	Sri Krishnadevaraya	MGU	Nagarjuna	Osmania	Bangalore
		West	Amravati	Bombay	Poona	Bhopal	Shivaji
		AIF	OUAT	MGU	Nagarjuna	Osmania	—
6. Cross Country Races (M)		North	Panjab	Jamia	Panjab	HPU	MDU
		East	BHU	BHU	Patna	Utkal	Calcutta
		South	Andhra	Osmania	Madras	Bangalore	Andhra
		West	Bhavnagar	Saurashtra	Shivaji	Poona	Gujarat
Cross Country Races (W)		AIF	BHU	Jamia	Poona	Delhi	GNDU
		North	Punjabi	Delhi	Rohilkhand	Punjabi	—
		East	OUAT	— N O	T H	E L	D —
		South	Gulbarga	Calicut	Kerala	Osmania	Mangalore
Hockey (M)		West	Nagpur	Nagpur	Poona	Amravati	Rajasthan
		AIF	OUAT	Calicut	Panjab	Rohilkhand	Delhi
		North	Punjabi	GNDU	Delhi	Punjabi	—
		East	OUAT	— N O	T H	E L	D —
Kabaddi (W)		South	Gulbarga	MGU	Calicut	Mysore	Mangalore
		West	Nagpur	Nagpur	Bombay	Poona	Amravati
		AIF	OUAT	MGU	Calicut	Kerala	GNDU
		North	Jamia	GNDU	PAU	Jamia	Delhi
		East	BHU	BHU	Gorakhpur	Ravishankar	Ranchi
		South	Nagarjuna	Bangalore	Osmania	Sri Venkateswara	Nagarjuna
		West	Jiwaji	Jiwaji	Bombay	Amravati	Ajmer
		AIF	Jiwaji	Jiwaji	Bangalore	Jamia	BHU
		North	GNDU	GNDU	Delhi	Punjabi	—
		East	Calcutta	Calcutta	BHU	Utkal	—
		South	Vacant	—	—	—	—
		West	Poona	Nagpur	RDU	Marathwada	SNDT, Bombay
		AIF	Poona	GNDU	Nagpur	Bombay	Poona



S.No.	Games	Zone	Venue	Winner	Runner	Losing Semi-Finalist	
						Lost to Winner	Lost to Runners
10. Kho-Kho(M)		North	Gurukula-Kangri	GNDU	Delhi	Punjabi	Panjab
		East	Calcutta	Calcutta	Jadavpur	—	—
		South	Madras	Bangalore	Mysore	Madras	Kerala
		West	Poona	Nagpur	Amravati	Devi Ahilya	RDU
		AIF	Calcutta	Poona	Bombay	Calcutta	Nagpur
11. Kho-Kho (W)		North	Punjabi	Delhi	GNDU	Punjabi	Panjab
		East	Tripura	Tripura	—	—	—
		South	Madras	Madras	Mysore	Bangalore	Karnatak
		West	Poona	Bombay	RDU	Nagpur	Devi-Ahilya
		AIF	Poona	Poona	Bombay	Delhi	RDU
12. Table Tennis (M)		North	Meerut	AMU	Panjab	Allahabad	Meerut
		East	North Bengal	Calcutta	North Bengal	RaviShanker	Jadavpur
		South	A.P. Agril.	Osmania	Karnatak	MGU	Mysore
		West	Saurashtra	Bombay	Gujarat	Devi Ahilya	Poona
		AIF	A.P. Agril.	Calicut	Calcutta	Bombay	Gujarat
13. Table Tennis (W)		North	Meerut	Kurukshetra	HNB, Garhwal	Panjab	—
		East	North Bengal	North Bengal	Burdwan	—	—
		South	A.P. Agril	Madras	JNTU, Hyd.	Calicut	MGU
		West	Saurashtra	Bombay	Devi Ahilya	Shivaji	Nagpur
		AIF	A.P. Agril.	Madras	Bombay	Devi Ahilya	Delhi
14. Tennis (M)		North	Delhi	Delhi	GNDU	Lucknow	Punjabi
		East	BIT	BIT, Ranchi	Jadavpur	Bihar	—
		South	Anna	Bharathiar	Anna	Mysore	Kerala
		West	Ajmer	Poona	Rajasthan	Ajmer	Jodhpur
		AIF	Anna	Madras	Mysore	Bharathiar	Poona
15. Volleyball (W)		North	Delhi	Panjab	Delhi	Kurukshetra	—
		East	BIT, Ranchi	Calcutta	BHU	—	—
16. Kabaddi (M)		South	MKU	Calicut	Osmania	Kerala	MKU
		West	Amravati	Nagpur	Amravati	Goa	North Gujarat
		AIF	Amravati	Poona	MGU	Osmania	Nagpur
		North	Meerut	Meerut	MDU	Kurukshetra	Delhi
		East	Utkal	Burdwan	Utkal	Calcutta	Ravishanker
		South	UAS, Bangalore	Mangalore	Madras	Andhra	UAS, Bangalore
		West	Jodhpur	Poona	Nagpur	Jodhpur	Bombay
		AIF	Utkal	Mangalore	Madras	MDU	Bombay

#### GAMES PLAYED ON EIGHT-ZONE BASIS

S.No.	Games	Zone	Venue	Winner	Runners	Losing Semi-Finalists	
						Lost to Winner	Lost to Runner
1. Basketball (M)		NZ'A'	— N O T H E			L D	
		NZ'B'	Jamia	Delhi	Punjabi	HAU	Kurukshetra
		EZ'A'	OUAT	Utkal	Calcutta	Berhampur J	adavpur
		EZ'B'	Purvanchal	BHU	Purvanchal	Magadh	—
		SZ'A'	Mysore	Bangalore	Nagarjuna	Karnatak	Kakatiya
		SZ'B'	Kerala Agril.	Calicut	Kerala	Bharathidasan	MGU
		WZ'A'	IIT, Bombay	Bombay	Goa	Amravati	South Gujarat
		WZ'B'	Vikram	Devi Ahilya		Vikram	
		AIF	Mysore	Bombay	Bangalore	GNDU	Delhi



S.No.	Games	Zone	Venue	Winner	Runner	Losing Semi-Finalist	
						Lost to Winner	Lost to runners
2.	Football (M)	NZ'A'	GB Pant	AMU	Allahabad	Lucknow	Meerut
		NZ'B'	Vacant	N O	T H	E L	D
		EZ'A'	Utkal	Manipur	Kalyani	Burdwan	Utkal
		EZ'B'	L.N. Mithila	L.N.Mithila	Bhagalpur	—	—
		SZ'A'	Osmania	Osmania	Bangalore	Karnatak	Mysore
		SZ'B'	Calicut	Calicut	Kerala	MGU	Madras
		WZ'A'	Marathwada	Marathwada	Goa	Amravati	Shivaji
		WZ'B'	Vacant	N O	T H	E L	D
		AIF	INTER-ZONAL POSITIONS UNDETERMINED				—
3.	Volleyball (M)	NZ'A'	Vacant	N O	T H	E L	D
		NZ'A'	H.P.Krishi	Punjab	GNDU	Punjabi	HPU
		EZ'A'	Kalyani	Burdwan	Kalyani	Utkal	Jadavpur
		EZ'B'	L.N. Mithila	Bhagalpur	L.N. Mithila	Kashi	BIT, Mesra
						Vidyapith	
		SZ'A'	Gulbarga	Osmania	Karnatak	Mysore	Bangalore
		SZ'B'	Madurai	Bharath- idasan	MKU	Bharathiar	Madras
		WZ'A'	Baroda	Poona	Marathwada	Bombay	Shivaji
		WZ'B'	RDU	Bundelk- hand	Jiwaji	Rajasthan	RDU
		AIF	Baroda	Osmania	MGU	Calicut	Punjab

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# CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be Contacted
Sept. 16-20, 1991	Regional Symposium on Educational Testing	Theme : Reforms and enhancements in educational testing system, test contents and formats in a country (or region)	The National Education Examination Authority (NEEA), People's Republic of China	Mr. Yang, Xuewai, Director, National Education Examinations Authority (NEEA), State Education Commission, 30 Yu Quan Road, Beijing 100039, The People's Republic of China
Sept. 17-18, 1991	Fourth Annual Conference of the Asian Association of Open Universities	To explore the need, desirability, practicability and relevance of face to face components in Distance Education	The Open University of Sri Lanka, Colombo, Sri Lanka	Ms. C Suriyapperuma, Organising Secretary, AAOU Conference, Open University, Box 21, Nugegoda, Sri Lanka
December 9-26, 1991	Winter School on use of Statistical Software	To introduce college and university teachers to computer-oriented statistical methods and to train them in the use of statistical software packages.	Indian Statistical Institute, Calcutta	The Course Director, Winter School on use of Statistical Software, Computer Science Unit, Indian Statistical Institute, 203, Barrackpore Trunk Road, Calcutta-700 035
December 14-16, 1991	International Conference on Man & Environment	To discuss issues concerning the future of man and preservation of the unique planet earth	Motilal Nehru Regional Engineering College, Allahabad	Dr. R.K. Srivastava, Organising Secretary ICOMEN - 91, Department of Civil Engineering, Motilal Nehru Regional Engineering College, Allahabad - 211004
November 9-13, 1992	16th World Conference on Distance Education for the Twenty-First Century	To give a view of the aspects of development in Distance Education in the Twenty-First Century	International Council for Distance Education, in cooperation with Sukhothai Thammathirat Open University (STOU), Thailand	Mr. Bruce Scriven, Program Chair - 16th World Conference of ICDE, Queensland University of Technology, Locked Bag No. 2, Red Hill Queensland 4059, Australia



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Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

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## THESES OF THE MONTH

### A list of Doctoral Theses accepted by Indian Universities

#### HUMANITIES

##### Philosophy

1. Ghosh, Preeti Ranjan. *Aesthetic experience and artistic intention*. Delhi.
2. Jha, Sangeeta. *Dharma aur darshan ke kshetra mein Acharya Hari Bhadra ka avadan*. BHU. Dr B N Singh, Reader, Department of Philosophy, Banaras Hindu University, Varanasi.
3. Pal, Bimal Chandra. *Socio-religious thought of Radhakrishnan*. BHU. Dr A K Rai.
4. Pandey, Rajesh Kumar. *Bhartiya darshan mein dukh ke avadharna*. Durgawati. Dr J P Shukla, Prof and Head, Department of Philosophy, Rani Durgawati Vishwavidyalaya, Jabalpur.
5. Singh, Phramaha Sutham. *The concept of God in Western philosophy of religion*. BHU. Dr D A Gangadhar.

##### Fine Arts

##### Drawing & Painting

1. Sinha, Mridula. *Bhartiya samkaleen kalapravarittiyon ka sarvekshan, swatantrata uparant*. BHU. Shri R C Shukla.

##### Language & Literature

##### English

1. Amalarasi, S C U. *The concept of man in William Golding's*

*cosmography as seen in his novels*. Bharathidasan. Dr K Chellappan, Prof and Head, Department of English, Bharathidasan University, Trichy.

2. Bajaj, Kum Kum. *Towards higher self: A critical study of Iris Murdoch's novels*. Punjabi. Dr Gurdit Singh, Department of English, Punjabi University, Patiala.

3. Hegde, Manjunath Gajanan. *Arun Joshi: A study in themes and technique*. Karnatak. Dr C V Venugopal, Reader, Department of P G Studies in English, Karnatak University, Dharwad.

4. Hukam Singh. *Perspectives on India in the novels of Paul Scott*. Jiwaji. Dr Qamar Alam, Department of English, M L B Arts and Commerce College, Gwalior.

5. Kurup, Gopinath. *A critical study of the modern Marxist poetry in English with special reference to Auden Stephan Spender, Cecil Day, Lewis and Locis Mac Neica*. Nagpur. Prof O P Bhatnagar, Vidarbha Mahavidyalaya, Amravati.

6. Nambiar, C Ravindran. *The treatment of sex, psyche, love and culture in the novels of Lawrence Durrell*. Calicut. Dr C P Sivadasan, Department of English, Calicut University Centre, Talassery.

7. Paliwal, Pradeep Kumar. *Imagery and symbolism in Thomas Hardy's major novels*. HS Gour. Dr (Smt) S Sengupta, Department



of English, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

8. Raveendran, N V. **Poetry of Kamala Das: A stylistic study.** Calicut. Dr C P Sivadasan, Department of English, Calicut University Centre, Talassery.

9. Renuka, C. **Doris Lessing and the dimensions of freedom.** Krishnadevaraya. Prof A Ramakrishna Rao, Department of English, Sri Krishnadevaraya University College, Anantapur.

10. Rizvi, Amin Zehra. **The concept of tragedy in the works of Albert Camus.** Jamia. Prof M Waseem, Department of English, Jamia Millia Islamia, New Delhi.

11. Sam Sahayam, V. **D H Lawrence and Anita Desai: A comparative study.** Pondicherry. Dr P Marudanayagam, Prof and Head, Department of English, Pondicherry University, Pondicherry.

12. Tripathi, Tribhuwan Nath. **Neo-romanticism in modern British poetry.** BHU. Prof R S Sharma, Head, Department of English, Banaras Hindu University, Varanasi.

#### Sanskrit

1. Bhattacharya, Pratima. **Ananda-Vrindavana: Champu ka alochanatmak adhyayan.** BHU. Dr R P Dwivedi, Reader, Department of Sanskrit, Banaras Hindu University, Varanasi.

2. Chaubey, Narendra Pratap. **Rigveda ke tritiya mandal mein pratipadit dharma.** BHU. Dr A K Srivastava.

3. Deekshitulu, Rani Subbaiah. **A critical study of Murari's Anargharaghava.** Andhra.

4. Dixitulu, Vadapalli Srinivasa. **Alankarika-Visweswarah.** Andhra.

5. Ghildiyal Gauri. **Shukla Yajurveda mein bhaishajya vigyan.** BHU. Dr V K Verma, Prof, Department of Sanskrit, Banaras Hindu University, Varanasi.

6. Kotwal, Meenakshi. **A study of pattern of myth in Bana's literature.** Jammu. Dr Mahesh Sharma, Reader, Department of Sanskrit, University of Jammu, Jammu.

7. Meera. **Abhinavgupta ke kavya rachanayen: Sangrah tatha sameeksha.** BHU. Prof R P Dwivedi, Head, Department of Sahitya, Banaras Hindu University, Varanasi.

8. Ram, Prem Chand. **Skandapurana ka ayurvedic samgriyon ke paripekshya mein ek alochnatmak adhyayan.** BHU. Dr L D Dwivedi.

9. Rai, Manju. **Shriharsha ke rupakon ka sanskritik adhyayan.** BHU. Prof V K Verma, Department of Sanskrit, Banaras Hindu University, Varanasi.

10. Sarma, Dorbala Prabhakara. **Nyayavisesheikayoh Atmatatva sameekshanam.** Andhra.

11. Suryanarayana, Kompella Rama. **A critical study of Khanda Deva's Bhattarahasya.** Andhra.

12. Tripathi, Anil Kumar. **Sanskrit roopkon mein prayog dharma.** HS Gour. Dr R B Tripathi, Department of Sanskrit, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

13. Upadhyay, Chandramouli. **Jyotis shastrsya kriyatmak swarupanusheelanam.** BHU. Dr Ram Chandra Pandey, Reader and Head, Department of Jyotish, Banaras Hindu University, Varanasi.

14. Vasudevan, T. **A study of stylistics in Sanskrit poetics with special reference to Kuntaka.** Calicut. Dr C Rajendran, Depart-

ment of Sanskrit, University of Calicut, Calicut.

#### Hindi

1. Bhadoria, Jitendra Kumar Singh. **Hari Krishna Premi ke natak aur rashtriya chetna.** Jiwaji. Dr G S Kushwah, Department of Hindi, Government Dr B S College, Gwalior.

2. Gopalakrishnan, V G. **A critical study of the social consciousness in Hindi samanthar kahani.** Calicut. Dr P K Padmaja, Department of Hindi, University of Calicut, Calicut.

3. Gupta, Deepa. **Sumitranandan Pant ke kavya mein sanskriti aur jeevan darshan: Lokayatan ke vishesh sandarbh mein.** Devi Ahilya. Dr Rajender Mishra, 9/2, Snehlata Ganj, Indore.

4. Mishra, Sheela Prem Nath. **Prasad sahitya mein Bauddha darshan tatha anya darshanon ka dwandha.** BHU. Dr Pradyumna Dubey.

5. Pandey, Durgawati. **Acharya Hazari Prasad Dwivedi ke upanyason mein prem aur saundarya ke swaroop.** BHU. Dr Chauthi Ram Yadav, Reader, Department of Hindi, Banaras Hindu University, Varanasi.

6. Rajni. **Topical study of humour and satire in Hindi essays of post independence period.** Jammu. Dr Janak Gupta, Prof and Head, Department of Hindi, University of Jammu, Jammu.

7. Ramesh Chand. **Swantah Sukhay Tulsi Raghunath Gatha: Ek sahitya shastriya vishleshan.** BHU. Dr M N Rai, Reader, Department of Hindi, Banaras Hindu University, Varanasi.

8. Sarvaiya, J L. **Apara ke adhar per Nirala ke aprastut vidhan ka adhyayan.** H S Gour. Dr (Smt) Asha Pathak, Department of Hindi, Government College, Chhindwada.

9. Sharma, Arvind Kumar. **Prem Chand aur Sharadchandra ke upanyason mein chitrit samaj.** BHU. Dr A N Ganguli.

10. Sharma, Munib. **Acharya Hazari Prasad Dwivedi ke upanyason mein prayukta : sanskritik shabdawali ka arthmulak adhyayan.** Durgawati. Dr T N Shukla, Department of Hindi, Rani Durgawati Vishwavidyalaya, Jabalpur.

11. Singh, Sudha. **Kathakar Prasad ke nari vishayak drishti.** BHU. Prof Tribhuwan Singh.

12. Sivarama Pillai, V. **Origin and development of Hindi prose: Re-evaluation.** Kerala. Dr V P Muhammad Kunju Metharu, Reader, Department of Hindi, Institute of Correspondence Course, University of Kerala, Kariavattom.

13. Upadhyay, Hriday Narayan. **Hindi ke pragatisheel alochana mein dwandha.** BHU. Dr Shukdev Singh, Lecturer, Department of Hindi, Banaras Hindu University, Varanasi.

#### Urdu

1. Akhtaruzzaman. **Prof Gian Chand Jain: Shakhshiyat aur fun.** BHU. Dr Qamar Jahan, Reader, Department of Urdu, Banaras Hindu University, Varanasi.

2. Saleh, Mohd Abu. **Sir Syed ke adabi khidmat ka tanqeedi mutala.** AMU. Prof Noorul Hasan, Department of Urdu, Aligarh Muslim University, Aligarh.

3. Thir Hussain. **Mir Anees ke bad Urdu marsiya nigari ka tahqeeqi wa tanqeedi mutalea.** Jamia. Dr (Ms) Sugra Mehdi, Department of Urdu, Jamia Millia Islamia, New Delhi.

#### Bengali

1. Bagchi, Binapani. **Pyarichand Mitra: Jiwan-o-sahiya.** Calcutta.



2. Datta, Swati. **Unis-vis sataker narisamaj-o-Rabindra katha sahitya tar parichay.** Calcutta.

3. Desarkar, Keka. **Bangla sahitya Kallol O Traimasik Parichayer Dan: Tulnamulak bichar.** Calcutta.

4. Gangopadhyay, Chandi Charan. **Mongal kavya Chandi.** Rabindra Bharati.

5. Ghosh, Runu. **Unabingsa satabdite Bangalir itihās charcha ebang Bangla aitihasik prabandha sahitya.** Rabindra Bharati.

6. Sen, Supriya. **Unabingsha satabdir swadesh chinta-o-Bankim Chandra.** Calcutta.

#### Oriya

1. Mirdha, Hadibandhu. **Oriya upanyasare adivastra jiban chitra.** Sambalpur. Dr A Kabi, Secretary, Selection Board, Education Department, 18, Satyanagar, Bhubaneswar.

2. Mishra, Ladu Kishor. **Aadhunika Oriya kabitare chitrakalpa ra prayoga.** Berhampur. Dr Shrinibas Mishra, Prof (Retd), Department of Oriya, Plot No. 212, Sahid Nagar, Bhubaneswar.

3. Tripathy, Santosh Kumar. **Oriya gitikabitare Rabindra pravaba, 1900 ru 1940.** Sambalpur. Dr B C Jena, Reader, Department of Oriya, Sambalpur University, Jyoti Vihar, Burla.

#### Persian

1. Akhtar, Narus Sayeed. **A study in classical Persian literature with reference to the two rare mathnavis of the Mughal period from 1556 to 1656 AD.** D. Litt. Nagpur.

#### Arabic

1. Ahmed Mohammad Hasan Al-Jarrah. **Adwat-al-shart wal mantiq- al-sharti fil Quran al-Karim.** Jamia. Dr Zubair Ahmad Farooqi, Department of Arabic, Jamia Millia Islamia, New Delhi.

2. Majumdar, Raina Khanam. **Life and works of Maulana Syed Abul Hasan Ali Nadwi.** Calcutta.

3. Sultana Razia Khanam. **A critical study of Shams Al-Din Al-Dhahbadi's (d. 748/1347) contribution to Arabic literature with special reference to his historical work.** AMU. Dr Abdul Bari, Reader, Department of Arabic, Aligarh Muslim University, Aligarh.

4. Syed Moyeenul Haque. **Ibanan Nadim on religious sects in Ancient India.** Calcutta.

#### Tamil

1. Kathiresan, S P. **Kannadasan kavidhaigallil samudayak koorugal.** Bharathidasan. Dr R M Peria Karuppan, Emeritus Prof, Department of Tamil, Madurai Kamaraj University, Madurai.

2. Podhuvan, Sengai. **Kalappadhai'li thamizhaga nattuppura villiattukkal.** Bharathidasan. Dr C Balasubramanian, Vice Chancellor, Tamil University, Thanjavur.

#### Malayalam

1. Chandrakumari, Anina C. **The literary contributions of Vayalar Rama Verma.** Kerala. Dr P Ramachandran Pillai, Swathinagar, Fort, Thiruvananthapuram.

2. Moopathiyoda, Mullakoya. **A vocabularic study of Lakshadweep Malayalam.** Calicut. Dr T B Venugopala Panikkar, Department of Malayalam, University of Calicut, Calicut.

3. Muraleedharan Nair, S. **Adhyatma Ramayana and Ezhuthachan's Ramayana: A case study in translation.** Kerala. Dr N R Gopinatha Pillai, Reader, Department of Malayalam, University

of Kerala, Kariavattom, P O Thiruvananthapuram.

4. Muraleedharan Nair, T R. **The treatment of Hindu mythology in Malayalam romantic poetry.** Kerala. Dr D Benjamin, Reader, Department of Malayalam, University of Kerala, Kariavattom, P O Thiruvananthapuram.

5. Rajeev, V. **Girijakalyanam: Critical edition and study.** Kerala. Dr N Sam, Lecturer, Oriental Research Institute and Manuscripts Library, University of Kerala, Kariavattom, P O Thiruvananthapuram.

6. Sebastian, Babu. **Characterisation in the novels of C V Raman Pillai: A study.** Kerala. Dr N Sam, Lecturer, Oriental Research Institute and Manuscript Library, University of Kerala, Kariavattom, P O Thiruvananthapuram.

#### Kannada

1. Patil, Sharanagouda Chandappagouda. **Karnatakada Janpada chitrakale: Uttara Karnatakavannu anulakshist.** Karnatak. Dr B R Hiremath, Reader, Institute of Kannada Studies, Karnatak University, Dharwad.

2. Pawar, Harilal Kheeru. **Karnatakada Helavaru: Ondu janapadeeya adhyayana.** Karnatak. Dr Devendrakumar S Hakari, Reader (Retd), Institute of Kannada Studies, Karnatak University, Dharwad.

#### Telugu

1. Chandra Murthy, Challa Sree Ram. **A comparative assessment of various adhyatma Ramayanas in Telugu literature.** BHU. Prof J S P Rao, Department of Telugu, Banaras Hindu University, Varanasi.

2. Maruvada, Siva Rama Krishna. **Character of Hanuman in Telugu Ramayanas.** Berhampur. Dr P Veeresalingam, Reader, Department of Telugu, Khallikote College, Berhampur.

3. Narasimha Reddy, M. **Rayalaseema Janpadula Jatharalu.** Osmania.

#### Geography

1. Srivastava, Nem Prakash. **Morphometric evaluation of landforms and settlements at kausani and its environs, District Almora, U P.** BHU. Dr (Mrs) N Kaushik, Reader, Department of Geography, Mahila Mahavidyalaya, Banaras Hindu University, Varanasi.

#### History

1. Babu, Ballamkonda Ramesh Chandra. **Paleography of the early Andhra inscriptions, C 300 B C - 300 A D.** Andhra.

2. Barai, Kumudini Devi. **Role of women in the history of Orissa from the earliest time to 1568 A D.** Utkal.

3. De, Dhurjatiprasad. **Bengal Muslims in search of social identity, 1905-47: A study in social development.** Calcutta.

4. Jain, Anita. **Radhogarh ka khinchl rajvansh, san 1526 se 1947.** Jiwaji. Dr (Miss) Anguri Devi Verma, Department of History, Government P G College, Guna.

5. Mukherjee, Lily. **Role of Gobinda Temple of Vrindaban in the context of religious based social life in the Northern India, 1590-1970.** Visva-Bharati. Prof Ajit Neogy, Department of History, Vidya-Bhavana, Visva-Bharati, Santiniketan.

6. Poonacha, K P. **Archaeology of Malanad Region, Karnataka, comprising the Districts of Shimoga, Chikamagalur and Hassan with special reference to pre and proto historic culture.** Karnatak.



Dr A Sundara, Prof and Chairman, Department of Indian History and Epigraphy, Karnatak University, Dharwad.

7. Raj Nath. Charak evam Sushrut samhitaon mein bhougolik samagri ka adhyayan. BHU. Prof Lallanji Gopal, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi.

8. Samantaray, Gayatree. Religious history of Orissa from Nandas upto Gajapatis. Berhampur. Dr A K Pattanayak, Reader, Department of History, Berhampur University, Berhampur.

9. Singh, Birendra Prasad. Bhartiya swatantrata sangram mein Sampurnanand ka yogdan, 1920-47. BHU. Dr A S Singh,

Reader, Department of History, Banaras Hindu University, Varanasi.

10. Singh, Kanti Prabha. Rajkiya Sangrahalaya, Lucknow mein sangraheet Apradhan Hindu Dev pratimayon ka shastriya adhyayan. BHU. Prof Lallanji Gopal, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi.

11. Trigunayat, Satish Kumar. Prachin Rajasthan mein Valshnav dharam ka vikas. Rajasthan. Prof S N Dube, Department of History and Indian Culture, University of Rajasthan, Jaipur.

12. Majumdar, Ramaprasad. The Church architecture of Calcutta, AD 1700-1900. Calcutta.

## EDUCATION NEWS INDEX

A list of select articles and editorials on Education from newspapers received in the AIU Library during August 1991

### EDUCATIONAL PHILOSOPHY

Sampooran Singh. Education for excellence. *Patriot* 25.8.91.

### EDUCATIONAL PSYCHOLOGY

Dayakar, C. Importance of aptitude. *The Hindu* 13.8.91.

### EDUCATIONAL SOCIOLOGY

Aruna Asaf Ali. Women's movement : Three scenarios. *The Tribune* 25.8.91.

INTROSPECTING ACADEMIA (Editorial). *Patriot* 31.8.91.

RURAL COLLEGES (Editorial). *Deccan Herald* 29.8.91.

TOWARDS A constructive dialogue (Editorial). *The Hindu* 12.8.91.

Yashpal. Towards regeneration. *The Tribune* 19.8.91.

### EDUCATIONAL POLICY & PLANNING

Amrik Singh. Drift in education has proved dear. *The Times of India* 5.8.91.

DRIFT IN education (Editorial). *The Hindustan Times* 2.8.91.

EDUCATION BY committee (Editorial). *The Times of India* 12.8.91.

EDUCATION POLICY debate (Editorial). *Patriot* 24.8.91.

FINDING THEIR vocation (Editorial). *The Tribune* 1.8.91.

### EDUCATIONAL ADMINISTRATION

ACADEMIC SLUMS (Editorial). *The Tribune* 17.8.91.

Agrawal, Damodar. Admission scene in Delhi colleges. *Deccan Herald* 9.8.91.

AUTONOMY TO colleges (Editorial). *Deccan Herald* 14.8.91.

Bose, Pallab Kumar. Admission blues. *The Hindustan Times* 3.8.91.

Parallel system of education. *The Hindustan Times* 31.8.91.

Hopper, W. A. F. Concerns in higher studies. *The Hindu* 20.8.91

Inderpal Singh. Management in education. *The Tribune* 4.8.91.

Lugani, R. S. What ails government schools? *The Statesman* 1.8.91.

TONING UP higher education (Editorial). *The Hindu* 21.8.91.

UNRESTINGU campus (Editorial). *The Assam Tribune* 7.8.91.

Venkata Reddy, K. Right man at the top. *The Hindu* 13.8.91.

### LANGUAGE & LANGUAGE POLICY

AVOIDABLE CONTROVERSY (Editorial). *The Tribune* 6.8.91.

Ramakrishnan, M V. Of logic and language. *The Hindu* 4.8.91.

Rao, D. S. Many tongues, many voices. *The Times of India* 11.8.91.

SANSKRIT BY fiat (Editorial). *The Times of India* 6.8.91.

Syamala, V. Imbalance in English teaching. *The Hindu* 20.8.91.

### SCIENCE EDUCATION

Balakrishnan, P N. Why not private study in science? *The Hindu* 13.8.91.

### VOCATIONAL EDUCATION

AREA OF neglect (Editorial). *The Hindustan Times* 8.8.91.

Arulandram, H G S. Needed : Community colleges. *The Hindu* 6.8.91.

Kakati, Arun. Vocational guidance : Lighting the way. *The Assam Tribune* 11.8.91.

STRIKE : BY men and machine? (Editorial). *The Tribune* 31.8.91.

Varadan, M S S. Toning up quality of management education. *The Hindu* 22.8.91.

### DISTANCE EDUCATION

Mutthirulandi, Raja. Distance education : Are we on the right path? *The Hindu* 6.8.91.

### TEACHERS & TEACHING

Joshi, Navin Chandra. Unlearning to learn. *Patriot* 24.8.91.



## EDUCATIONAL TECHNOLOGY

Mohd. Jamaluddin. Computers : Dos and don'ts. *The Hindu* 27.8.91.

## EDUCATIONAL EVALUATION

EXAMINATION ILLS (Editorial). *Deccan Herald* 21.8.91.

## LIBRARIES & BOOKS

Hasan Suroor. Boost for Indian books. *The Hindu* 25.8.91.

Rana, M S. Axe falls on book importers. *The Hindustan Times* 8.8.91.

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# University News

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# UNIVERSITY NEWS

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## IN THIS ISSUE

Teaching English Well	2
Countrywide Classroom : Different Modes	5
Reservation in University Teaching Posts	7
<b>Campus News</b>	
Refresher Course in Geography	12
Standard Textbooks in Tamil	12
IT Exemption to Donations for Soc. Sc. Research	13
UGC Grant for Kakatiya University	13
<b>Agriculture</b>	
Electronic Media Workshop	14
Biological Control of Crop Pests	14
<b>News from UGC</b>	
Courses in Functional Hindi	14
Commonwealth Fellowships & Scholarships	15
<b>News from Abroad</b>	
Post-doctoral Fellowships	15
Current Documentation in Education	16
Theses of the Month	17
Classified Advertisements	23

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Editor :  
SUTINDER SINGH

# LIMITS TO EXTENSION

S.P. Gupta\*

Ernest Boyer in his article "Society's Scouts called to Service" (*Times Higher Education Supplement*, London, August 3) raised a question, "Is the modern university sufficiently engaged in service to the nation? Are today's scholars too much in the ivory tower, unresponsive to national and world affairs? He concluded with the statement : If the wisdom residing in the nation's colleges and universities cannot be brought to bear on our most pressing problems, prospects for higher education will be dangerously diminished.

All the world over serious thought has been given to the relationship between the university and the society or the domain of scholarship and the field of practice. The relationship is presently given the name of 'extension' or 'service'. Scholarship traditionally has been regarded by the Germans as "a means in itself", by the British as "a means and measure of self-development", and by Americans as "equipment for service".

Thus the essential character of the American scholar was fulfilling the task of using education as a tool of service to the society. They had faith in achieving a better tomorrow by means of education. The Land Grant College Act of 1862 gave a practical shape to the ideology through which each state was given federal land to support education in the liberal arts and provide training for agricultural and mechanical revolutions. Teachers and students as well were motivated by the spirit of serving the community.

In course of time however the proportion of service in the whole gamut of university work seems to have been reduced. This is largely due to the stress now given on the academic work. Service receives little attention in practical terms in most institutions. Even the professional schools which had originally the aim of bridging theory and practice, have on their affiliation to universities tended to dampen their commitment to service. There is now a more academic approach which hardly tries to solve the problems of industry and practical field.

The prestige of an academic and so also his promotion depends now-a-days on the list of his publications and research findings irrespective of the fact whether his work has any application or not. Derek Bok (*Universities and the Future of America*) lamented the fact that even though the security of tenure and the time to study with care gives professors a unique opportunity to act as society's scouts to signal impending problems long before they are visible to others, they have rarely succeeded in discovering the emerging issues and bringing them vividly to the attention of the public. He further observed that most universities continue to do their least impressive work on the very subjects where society's need for greater knowledge and better education is most acute.

A way out has been suggested that for the academia to address itself more intimately to the national needs, the reward system should be changed. But it is not likely to change the situation a great deal in view of the following facts. There is as yet no performance indicator for the extension work. In fact the universities have not given thought to the issue of articulating as to

(Contd. on page 6)

\*Additional Secretary, University Grants Commission,  
Bahadur Shah Zafar Marg, New Delhi-110 002.



# TEACHING ENGLISH WELL

## Need for a More Practical Attitude

R . K. Singh\*

I reflect on the subject rather at an inopportune time as several of our state governments simply don't want us to teach or practice English (which is evident from the decision banning use of English in all official communications and discouraging English medium schools).<sup>1</sup> But the language has been long adopted and firmly established as a link language by our national leaders during and after the freedom struggle not only for mutual communication and coexistence but also for saving the republic from small state nationalism. It established its roots in our country as a language of national resurgence, political awakening, and cultural unification, and happily, continues to grow as such in its own localised way.

### English : a National Resource

English is also already functioning as a link language in the presentday global village, not necessarily for reasons of quality or superiority but for political and historical reasons (like Latin in England or Sanskrit in India was the universal language once upon a time). Both England and the USA have been dominating powers for the past three centuries or so and as it happens both these countries speak English, which has become a dominating language, the language of power, utility and international communication today.<sup>2</sup> Not only the number of English-speakers has doubled in the past three decades, English has invariably been the first choice for second-language learners in many countries.<sup>3</sup> Now about 750 million people around the world use it either as a first or second language.

But it doesn't mean everybody would speak this language solely and uniquely and abandon all others; because language is an asset, a treasure. Because we admire Shakespeare, it doesn't mean we don't want to study Kalidas, or Nirala or Premchand or Tagore. It's not just a matter of convenience that English should be used universally : English exists for many utilitarian reasons in many non-native forms, and in India, with the 'associate official language' status that constitutionally it enjoys, let's also not forget the fact that socially English continues to be a prestige language and a widely

preferred medium for all transactions; it is now an integral part of the country's linguistic ecology and perceived as a language of power and opportunity, playing a vital functional role in educational, administrative, and sociocultural contexts, just as over 3/4 of secondary school students have been studying it. Despite occasional outbursts against it, the demand for it has continued unabated : more English is spoken and written today than 25 years ago just as creative writing in English by Indian writers is considered at par with writing in native languages and acknowledged by the National academy of Letters.<sup>4</sup> It is a national resource and individual asset if not a national language.

### Change in Attitude Necessary

I am referring to these things to make a plea : We should change our attitude and try to say : 'You and I don't speak the same language or have the same background, yet we speak together and we enjoy it'; or 'You and I enjoy speaking English with our own different accents but it doesn't matter'. That's my personality, and your personality (I hope you remember there are over 90 different dialects of English in addition to so many American, Scottish, Welsh, Irish, Australian, Canadian, New Zealand, South African, Asian, Latin American varieties and forms). We should say: 'I have an accent when I speak English and when I speak my mother tongue. It doesn't matter'; or 'I enjoy speaking somebody else's language and get enriched discovering another profile, another vision of the same world, the same humanity'; or 'we see the same life, the same man but through another key hole, another language'. Don't we discover the same world of man through Shakespeare, Moliere, Tolstoy or Premchand?

Let's also agree to see English as a neutral language of communication without identifying it with the UK or the USA and teach it in addition to the mother tongue as a means of widening the cultural and intellectual horizons of our students. I am tempted to quote George Steiner's words some 15 years ago : "To know another language well, to penetrate the reflexes of awareness and judgment in its idiom, to experience in personal immediacy the transparencies or opaqueness which link or divide it from one's native speech — to do these things is, quite literally, to harvest a second self. It is to open a second window on the landscape of being."<sup>5</sup>

---

\* *Head of the Department of Humanities & Social Sciences, Indian School of Mines, Dhanbad - 826 004.*



## Tolerance Necessary

So learning another language makes one bigger, gives one a wider vision, makes one aware of the subtleties that we don't get in one language. One justification for the teaching and learning of other languages is "the development of a sensitivity, not only to the processes of language acquisition and use, but above all, to the understanding and interpretation of human differences, essential to the mature evaluation of one's own language and culture."<sup>6</sup> As teachers of language and literature, I hope the fraternity will appreciate my plea for tolerance and mutual understanding in our pluralistic multilingual society, where unfortunately communication is, to quote Mulk Raj Anand, "balked by narrow parochialism."<sup>7</sup> The larger vision inspired by tolerance will always triumph over parochialism and shortsightedness.

Language tensions are normal in a world where over 6000 languages coexist in 160 countries, and it's all the more normal in a country like India where 840 million people use over 1650 languages and dialects (as mother-languages) including more than 200 classified languages and 15 constitutionally recognised languages of national importance.<sup>8</sup> But let's not worry for the time being about what's going on as English-only or Hindi-only or Tamil-only movement which is indeed only to maintain political dominance in various states. English cannot be the cause for cultural insecurity or ethnic prejudices in India (as it is in the USA where English-only proponents are worried about a perceived Hispanic threat, not the threat of Spanish, when they promote English-only laws under the guise of national unity and want to tackle Hispanic immigration besides maintaining political dominance.) Protest movements that we notice from time to time have failed, and are bound to fail, because they have been mostly supported by those who think "status quo" which is Latin for "the mess we're in".

## A More Practical Attitude Necessary

I make these remarks not to reflect on language policy or planning but to emphasise the need for adopting more practical and accommodating attitudes besides thinking about our role as teachers of English. Each one of us should be willing to contribute to its continuance and teaching as the second important language of social and human intercourse in the country without hampering the growth of the regional language/mother tongue whose better teaching, knowledge, and usage will indeed improve learning of any second or third language anywhere.

## Teaching English Well

If we accept our aim is to teach well, and if we want

to ensure that our pupils should achieve a **high score** command of the language, then we must (i) encourage a teaching programme that is responsive to their specific needs, (ii) pursue such teaching activities from which pupils know they are learning something useful; and (iii) adopt a flexible teaching approach that results in success of the pupils

## Need-based Teaching

Of these three didactic aims, the first, a need-based teaching programme, is probably the most demanding and most difficult for the teacher. Yet in the final analysis, the most rewarding. The teacher must first know each pupil's level and abilities in order to provide material that is relevant and challenging with a definite goal in mind. For example, the grammatical structure and lexical items that one teaches should be at the service of the students' need to use language in natural situations and for real reasons. They don't need a theoretical knowledge of the target language but rather "an ability to understand or be understood in that language within the context and constraints of the peculiar language-using circumstances."<sup>9</sup>

## Useful Activities

If we teach English as a means of communication, we should also understand the essence of communication is meaningful interaction between participants, be it in the context of speaking, listening, writing or reading. Teaching this involves not teaching *about* the language but presenting and practicing with such language items that learners may need in real life; it means activating their oral and written skills or encouraging their input; it also means making them aware of the socio-linguistic contexts in which various communication strategies can be put to use. This should help in achieving the second objective, that is, providing activities from which they know they are learning. We cannot think of teaching activities that are satisfying or fulfilling the students' actual requirements unless we are sensitive to their problems and are flexible and adaptable.

We have to give them opportunities to *use* language in intelligent and relevant interaction: they deserve an opportunity to think, to provide information from their world of knowledge, to express their personal opinions and to disagree with other people's, to choose among equally valid alternatives etc. We have to be willing to encourage students to use language at all levels — from reading serious texts to everyday conversation — not necessarily in RP or GA, but rather in different accents and varieties of educated Standard English, well enough to be understood. Whatever activity is presented to the class as a whole — be it songs, poetry, listening com-



prehension, discussion, or communicative functions such as praising, criticising, suggesting etc., each student must fully understand and accept what is anticipated. The activities must relate to students' intellectual awareness, by challenging their cognitive and creative ability. And, students should also realise that they are also equally responsible for their learning, that it is enjoyable and useful.

### Flexible Teaching Approach

The third objective relates to motivating the students to experience success, to make them believe it is possible. The negative feelings of futility of learning or teaching English have to be changed. The stepping stones of learning and progress should not be so far apart that they might stumble and fall, or even worse, fail. Failure can be avoided — by providing rewarding and successful experience, by using communication-provoking techniques that would produce meaningful interaction. To that extent it is worthwhile for the teacher to keep in mind various approaches rather than a specific method. (The main difference between an approach and a method is that the former is flexible while the latter is rigid). It is possible to be flexible and adaptable in the English classroom if the teacher lets the class know from the very first day what his or her demands are pertaining to class work, class discipline and homework, and clearly states all goals and objectives. If we respect our students and plan our curriculum to suit the needs of the class, I am sure there won't be much difficulty. Using the mother tongue in explaining the plan and purpose of the language work in the class, the context and the structure and some key words and expressions before the class starts doing the language exercises in helpful as it makes the activities communicative.

Even if we have a big class of mixed abilities, we can always spot a few bright and independent learners, teach certain materials to the class as a whole, and form groups and pairs for written exercises, discussions, tasks, and specific topic activities. We can intuitively find certain ways and means that are suitable in a particular class or group of students. But unless we gear our material, approach and syllabus to the needs of the class, we cannot open up new doors for the students.

### An Opportunity to Explore

Teaching English should be seen as an opportunity to explore and understand, to question and argue, to learn and to retain something new, something different via language. And before a teacher decides to label and accuse a student of not wanting to learn, perhaps it would be best, to first sit back and evaluate his/her own

teaching approach. Students want to learn, they are expressing themselves in a new and different language. So the question we should be asking ourselves is not just what to teach but, more important, what to teach whom and why! <sup>10</sup>

### Notes and References

1. Cf the widely reported news item that Chief Ministers of Uttar Pradesh, Madhya Pradesh, Himachal Pradesh and Rajasthan and over 30 MPs met in Indore under the auspices of Angrezi Ha Sammelan on 13 August 1990 and decided to "banish English forthwith from the administrative functioning of their governments."
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# COUNTRYWIDE CLASSROOM: DIFFERENT MODES (Direct, Talk-back, Interactive)

D.R. Goel \*

Kiran Jaiswal \*

## Introduction

The 'Countrywide classroom' project sponsored by the UGC was launched on 15th August, 1984. The aim of the project is to improve the quality of university level education through telecast for the Countrywide Classroom on Doordarshan's National Network via INSAT system on all working days from 1:00 p.m. to 2:00 p.m. and 4:00 p.m. to 5:00 p.m. These programmes are targeted primarily at the undergraduate students especially studying in small towns located in rural and semi-urban areas. The programmes also serve the teachers in higher education to enable them to teach more effectively. At present the Communication through Countrywide Classroom ETV programmes is one way because the viewer cannot communicate back to the television teacher. Can there be a Telephone or satellite network through which the viewers can put their questions to the TV teacher after/during viewing the Countrywide classroom programme which may be responded by the TV teacher and mass communicated (Talk-back/Interaction)? What are the additional utilities of talk-back and interaction? Are the talk-back and interactive modes with respect to mass communication feasible in India technologically, economically, temporally, and spatially?

## Talk-Back Experiment in India

To overpower the limitation of one way communication in Countrywide Classroom an attempt is being made to conduct Countrywide Classroom programme through talk-back. This nationwide talk-back experiment is proposed to be conducted from 23-28th September 1991. For this 3 agencies, namely, UGC, Developmental and Educational Communication Unit (DECU) at Indian Space Research Organisation (ISRO), and Doordarshan are collaborating. Calcutta, Hyderabad, Pune, Roorkee, Madurai, Surendranagar, Imphal (Manipur), and Jodhpur are the centres selected for talk-back. Two of these centres, namely Jodhpur and Imphal will be linked with the studios at Delhi through Satellite INSAT-1D, whereas the remaining six centres will be linked through the public switching telephone network (PSTN). Under the Countrywide Classroom programme as usual a programme will be telecast. Then this telecast will be followed by the questions by the viewers from the above

centres. The questions from the two remote centres namely Imphal and Jodhpur will be beamed to the Satellite through scots and radio network and received and relayed by the Satellite to the studios at Delhi, which in turn would respond to the viewers through direct receiving sets (DRS). The talk-back from the remaining centres will be facilitated through straight trunk dial (STD) of public switching telephone network. The responses to the questions raised by the viewers will be responded to by the TV teacher, communicated through the satellite and received through receive-cum-relay transmitters and VHF sets. So this way two way communication will be examined at the lab level in terms of source, subject, message, mode and medium.

## Countrywide Classroom and Direct Mode

Students view the programmes telecast through the satellite directly without any formal interaction. The Countrywide Classroom ETV programmes are effective in its direct mode. It was found that 98% of the programmes on Biology, Chemistry, Physics and Computers were effective for both the English and Hindi media students. 15 programmes out of 50 (30%) were equally effective for both the English and Hindi medium students, whereas, there was significant difference in 30 (60%) programmes in favour of the English medium students and 5 (10%) programmes in favour of the Hindi medium students. (Kiran Jaiswal, 1991)

## Countrywide Classroom and Interactive Mode

An infinite network is required for interacting with the TV teacher which is almost impossible. So, utilizing the educational television programme in the interactive mode is almost a figment of imagination. So the educational television cannot be received in the interactive mode through VHF. Also interaction through satellite network is not possible because every single viewer cannot have such a powerful transmitter so as to be received by the satellite and relayed to the educational television studios. So, it is very difficult, rather impossible, to receive the educational television in the interactive mode. The only possibility left to receive and respond to the educational television programme is through videotaping the educational telecast and conducting it through the interactive mode. That is whenever there is educational telecast it may be recorded. Once the programme is recorded the topic can be played back and whenever there is question by any viewer it can be stopped. The question may be responded by the class teacher or an expert in the field

\* School of Education, Centre of Excellence, Devi Ahilya Vishwavidyalaya, Indore - 452001 (India)



and then the viewing may be continued. So the programme can be viewed in the interactive mode both through the live presentation and mediated presentation through the CCTV.

### **Feasibility of Talk-back and Interactive**

#### **Modes in India**

It is a rather a challenging task to introduce talk-back and interactive modes in Countrywide Classroom programme with respect to mass communication because for that additional network in terms of hardware and time slots on the limited channel TV transmission is required. It is a very systematic beginning to introduce talk-back as presented above. With the advent of time when education will have to encompass larger population scattered geographically, the country will have to depend upon mass communication, sizeably. While introducing the interactive mode one assumes the basic premise that these modes enhance communication through TV as a solo medium. It is supplemented through research evidence that the gain in three programmes out of ten was significant through the Countrywide Classroom with talk-back. However the mean achievement of the talk-back group in three programmes out of seven was higher than that of without talk-back, though not significantly (Namita Sahoo, 1991). Similarly it was found that the Countrywide Classroom programmes were highly effective with talk-

back in comparison to without talk-back with respect to Concept Attainment Model (selection strategy) and Advance Organizer Model. Similarly the mean achievement with interaction was found significantly higher than the mean achievement without talk-back in case of the Advance Organizer Model. The programmes were highly effective with interaction in comparison to talk-back in case of Syntactics and Concept Attainment Model (selection strategy). (B.B. Singh, 1991)

From the above presentation it is evident that there is definite gain through the talk-back and interactive modes. No doubt these studies were conducted under simulated conditions. The talk-back experiment which is to be conducted in our country would examine the feasibility of talk-back mode with respect to mass communication.

Along with talk-back and interactive modes it is extremely desirable that TV as a medium of educational communication is made master, that is more comprehensive. Efforts have to be made particularly in developing countries like India to design and develop ETV programmes more meticulously so that there is no room left for the other interactive modes to supplement it. However an expanded infrastructure in terms of hardware to facilitate two way communication is always desirable. There is a dire need to make ETV more developed in terms of source, message, format, medium, and mode by focusing on them individually and globally.

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## **LIMITS TO EXTENSION**

*(Contd. from page 1)*

how the different subjects of teaching and research can be given the added dimension of extension or service. As is well-known many a subject of humanities and social sciences are intrinsically of academic interest. The same is of course not true of sciences. Technology is a field apart in view of its potential immediate application. But since majority of the subjects, teachers and students belong to humanities and social sciences, the work of universities for extension is not laid out or defined.

The subjects are getting increasingly fragmented in all disciplines. Sciences are facing a greater problem due to over specialization. Quite frequently a new breed emerges but it takes ample time to get an individuality. Until personality is recognizable, it cannot fruitfully interact with the community. In fact nobody takes any cognizance of the fuzzy field.

Efforts have been made to create applied subjects in sciences like applied chemistry etc. but their utility was always in doubt. Loaded as they were with applications, the teaching of fundamentals was severely limited. It is only at the level of R & D that interaction of scholarship with society could be more useful in terms of solving the complex problems of the society. Social service is however another matter, though not quite distinct.

To meet the demands of a sophisticated labour

market, the higher education system is becoming more and more flexible and diverse. The growing specialism in science and technology is making fine divisions of intellectual labour. This is resulting into the fact that ideas and institutions are more loosely coupled now. The Academic system is changing its character as it has responded to the pressures of wider access and equity. Nevertheless university is no more the exclusive place of knowledge production.

Research is carried out in many public and private institutions other than universities. Continuing education is provided by industries themselves as well as professional institutions. Many a university have remained indifferent to the values of industrial society. The alliance between universities and science is still incomplete. The diversity and pluralism of modern education system are no more limited to the traditional elite systems.

The tools and techniques of universities for community service or extension work are rather traditional whereas other institutions have been able to adopt more modern means which makes them easily accessible and flexible. Modern and progressive knowledge is the hallmark of the university system but it has to be equipped with greater motivation and progressive management system to deliver the goods to the society.



# Reservation in University Teaching Posts

## The latest decisional law and a critique

N.L. Mitra\*

### Is University a State ?

Reservation for SC/ST/OBC in the teaching posts of the universities has become an important and controversial issue for quite sometime. One basic issue has become clear unless one sees the ghost of 'Sacred Cow' in everything, that Universities are considered as 'State' under Art. 12 of the Constitution for the purpose of Chapter III of the Constitution and to that extent law has considerably progressed from *Shanta Bai*<sup>1</sup> to *Suresh Chandra Verma*<sup>2</sup>. Of course as per the present interpretation of the Supreme Court of India authorities like Universities can be supposed to be a State instrumentality and hence no one would doubt that 'Universities' are included in 'other authorities', and these are 'State' within the meaning of Art. 12 of the Constitution of India.

Universities are *corpora-personalis* by the Act of State and hence no one may object if Universities are termed as State instrumentalities.

### A few general questions on reservations

'Reservation' or in other words 'discriminative treatment' is based upon the logic of bringing social and economic equality and establishing the realm of justice. Such a deliberate positive step can be taken in the name of equality within a constitutional parameter. Strategically there are two techniques that can be adopted in a reservation programme, one is called a 'push method' by emphasising special educational, economic and cultural inputs<sup>3</sup>; and the other is called a 'pull method' by providing 'protective discrimination' with a programme of reservation in jobs and services.<sup>3A</sup> The political question of reservation is provided generally by ensuring representations in the political process. Constitution of India has adopted all these methods but with varying strategies. Let us examine the techniques and strategies of reservation before going to this question in the University teaching assignments.

#### (a) Enabling strategy with push technique

Arts. 15(3) and (4) have provided for permissibility to the State to make 'special provisions' for the advancement of

\*Professor of Law, National Law School of India University, Central College Campus, Bangalore-560 001.

of 'women and child' and 'socially and educationally backward classes or Scheduled Castes and Scheduled Tribes'. It simply means that a special programme made by the State shall not be struck down by the court on the logic of Art. 15(1). This means the State is entitled to make special programmes for socially and educationally backward classes, advancing the interests of these special groups. Universities, founded by Act of Legislature and functioning as Govt. aided Institutions, have some special programmes but confined mostly to reservation of seats in various classes and courses. Properly speaking it is not the true spirit of this constitutional provision; a special detailed programme with a view to bring up and build up the capabilities of these sections of the population is what is most needed. Often a reservation of some few seats in a given course injures the long term interests of that section more adversely than doing good. The rate of failure/dropout in academic courses amongst these sections of the population of students shall reveal the veracity of the statement. Anyway this is not our subject of study presently.

#### (b) Enabling strategy with pull technique

Art. 16(4) again in an enabling fashion suggests that State can make provision for 'the reservation of appointments or posts in favour of any backward class of citizens'. Here also the constitutional provision is not a mandatory provision, i.e. reservation is not constitutionally mandatory. Besides, reservation under this enabling strategy has to be within the constitutional objective criteria of 'consistently with the maintenance of efficiency of administration'. Thus a dichotomy between 'reservation' and 'efficiency' is not to be presumed and any apparent conflict is to be resolved in a fashion so as to reconcile reservations with efficiency in administration.

Constitution does not provide a time-frame for upliftment measures to be taken under both push and pull techniques, perhaps due to difficulties in auditing the rate of their all-round progress. Perhaps another reason could be that unlike political attempt of equation in power process where there is constitutional provision for temporal reservation, in legislatures etc., for the removal of social and educational backwardness, the



Constitution could not provide any positive constitutional rights due to reasons like immeasurable social and economic variables, inflexibility of governmental programmes through reservations; innumerable problems of auditing the progress of each class in the intra-class and inter-class parameter, etc. A more positive way of 'pulling and pushing' the community of people hitherto dehumanised under social, economic and political pressure within a time-frame would have required a very positive, assertive and determinative emphasis on Art.15(4) instead of trying to take short term correctives under the present negative frame of Art.16(4). In fact Art.16(4) provides a short term adjustment in government services without anyway injuring efficiency of administration. Relatively poor emphasis on Art.15 (4) in adoption of 'special programmes' for educational and social advancement puts Art.15 (4) and Art. 16(4) almost on the same level, there by losing any perspective in socio-economic correctives.

### University's role

As state instrumentalities specially meant for academic advancement, Universities have a big role under Art.15 (4) for designing special programmes for Schedules Castes and Scheduled Tribes. This is another matter on which a special discussion would be necessary in future. As regards reservation of posts and services, Universities either may have their own statutory provisions or may follow the Central or State government order. Such an order is binding on the Universities because Universities are State instrumentalities. Art.16 (4) constitutionally enables such reservation in 'appointments or posts'. As such constitutional mandate is to authorise the State to discriminate, *inter alia*, in matters of employment.

So when under Sec.57 (4) (a) of the Nagpur University Act it was stipulated that employment notice should indicate the number of posts to be reserved, it was a legal right with constitutional permissiveness. In other words, State has to make provisions to entertain claims of the Scheduled Caste and Scheduled Tribe candidates regard being had to the maintenance of efficiency in the services. It means, other things being equal, SC/ST candidates are to be preferred.

In view of the enabling provision of the Constitution as well as State policy of social justice many of the University Acts and Statutes provide specific provision for reservation of posts for Scheduled Castes and Scheduled Tribes and educationally and economically backward sections of the community. Such a provision in the University Acts and Statutes has been subjected

to a wide variety of interpretations.

Hence it is worthwhile to look to the decision of the Supreme Court of India in *Dr. Suresh Chandra Verr and others*<sup>4</sup> case. In this case facts were that under Sec.57 (4) (a) of the University Act, employment notice would indicate the number of reserved posts. The University issued the employment notice in question inviting applications for a total of 77 posts which included 13 posts of Professors, 29 posts of Readers and 35 posts of Lecturers in various subjects, mentioning in the notice that out of the 13 Professor's posts 3 were reserved for SC, 2 for ST and 1 for VJ/NT; out of 29 posts of Readers 6 were reserved for SC, 4 for ST and 2 for VJ/NT; and out of 35 posts of Lecturers, 7 were reserved for SC, 5 for ST and 4 for VJ/NT. But there were no subject-wise specification for reservation. A number of applications were received both from reserved and non-reserved categories. Different Selection Committees numbering 53 were constituted and they recommended 47 candidates for 53 posts. These Committees gave weightage to the candidates belonging to the reserved categories. Thereafter the Executive Council constituted a Sub-committee to decide which posts should be reserved for the reserved categories. On the recommendation of the Sub-Committee and taking into consideration the backlog of reservation, the Executive Council decided to keep apart 17 posts and made permanent appointments only in 30 posts, on March 30, 1985. 17 posts were kept for reserved categories and temporary appointments were given in those posts. All these posts reserved for SC/ST were created in the Sixth Plan Period.

Some social workers and organisations made representations to the Chancellor making a grievance against the employment notice and the procedure followed in the selection and appointment. On this the Chancellor appointed a one-man Committee to inquire into the matter. The Committee submitted its report on September 24, 1985 which was accepted by the Chancellor.

Meanwhile a bunch of writ-petitions were submitted in the High Court challenging the employment notice on the ground that the non-obtaining of the recommendation from the Board of University Teaching & Research (BUTR) before issuing the employment notice was bad in law in view of Sec.32(2) (iii) of the Act. On these writ petitions the High Court directed the University to be restrained in giving appointments until obtaining the recommendations from the BUTR.

Taking into consideration the High Court's orders and the report of the one-man Committee, the Chancellor directed the University to terminate the services of



all the appointees. The termination notice was served on four grounds, namely,

- a) reservation policy not consistent with law ;
- b) allocation by EC of all reserved posts in VI plan period was arbitrary;
- c) mandatory recommendation of BUTR not taken ; and
- d) employment notice not according to law.

The Vice-Chancellor, of course, reappointed all of them by exercise of his emergency power under Sec.11 (4) for temporary period subject to final selection. The matter went to the Supreme Court through the Division Bench and Full Bench decision of the High Court.

#### Issues raised:

Some fundamental issues that were raised in *Dr. S.C.Verma's*<sup>5</sup> case are :

- (a) Should reservation be made post-wise and subject-wise or can it be done only on the cadre basis ?
- (b) Should the reserved post be notified in the employment notice itself ?
- (c) Should the appointment be terminated if employment notice is invalid ?
- (d) Should individuals be heard before serving the termination notice on the ground that the employment notice was itself unlawful?
- (e) Should recommendation of BUTR be mandatory ?

#### Should reservation be post and subject-wise ?

On the issue of whether reservation be post & subject-wise or cadre-wise, general in nature, there were conflicting stands. In *Bhakare's*<sup>6</sup> case the Division Bench of the Bombay High Court decided that 'post and subject-wise' reservation was not necessary. Another Division Bench came to the opposite view on which the matter was referred to a Full Bench in *Dr. S.C. Verma's*<sup>7</sup> case. The Full Bench, of course, decided that category-wise general reservation was not valid, against which appeal was preferred to the Supreme Court. It may be noted that teaching posts in the Universities are created differently and are treated differently. Unless this is known, a proper assessment of reservation policy cannot be made. But before doing that let us see the policy frame-work of reservation for SC/ST in Art.335. The article suggests that reservation for SC/ST can be made 'in the making of appointments to services and posts' :

- a) in 'the affairs of the Union or of a State';
- b) consistently with the maintenance of efficiency of administration.

Even if we consider a University as a State instrumentality under Art.12, there can be a doubt raised about the meaning of the word 'State' under this article. Here

the word 'State' is used in juxtaposition to the expression 'the Union'. As such it means presumably the 'State government' as against the 'Union government'. But since 'education' is a responsibility of both the Union and the State, we may include the University within the expression 'the Union or of a State', as instrumentality of the State. The second question is the policy under Art. 335 concerning 'administration'. Should we include and compare 'teachers of the University' as services in the administration ? Process of administration is the process of execution of the policies. In this very wide sense the teachers of the Universities can be said to be executing the policies of the State. But this is a very diluted meaning. There could, thus, be a reasonable doubt as to the import of Art. 335 so far as reservation in the teaching posts of any University is concerned.

Universities either follow the 'Government Order' on the matter or have clear provision of their own Acts and Statutes. in the *Verma case*<sup>8</sup>, of course, the Act of the University provides for reservation in teaching posts.

Now, University posts are created in a span of 5 years on the assessment of the need of a University Department of Studies by a team of experts. In most of the cases, one/two posts are created in any cadre looking into the existing and expanding needs of the Department. Naturally, in the higher posts less vacancies are created in comparison with the lower posts. Unlike any other services, all vacancies in the universities are 'open' vacancies to be filled up by open advertisement and there is no provision for promotion to higher posts. So a few special features of University teaching assignments are :

- (i) posts are seldom created in a shorter period than 5 years. Thus a clear policy decision is required to be taken as regards the period for which a post in the reserved category is to be kept vacant in case of the non-availability of a suitable reserved category candidate.
- (ii) in few subjects, very few posts are created. It becomes difficult to apply the quota of reserved posts to such posts. As for example, in a few Departments of Studies there are in total 3 or 4 posts. In that case reservation becomes difficult at the rate of  $12\frac{1}{2}\%$  or  $7\frac{1}{2}\%$  as the case may be ;
- (iii) in case there is a single post created in a subject, it becomes impossible to reserve the post.<sup>9</sup>

In order to obviate these difficulties, in some States the government order specifies a 'roster' system<sup>10</sup> in which posts of a Department are numbered and reservation category is fixed. As for example,

Post 1 of a Department is	unreserved
Post 2 of a " "	for SC



Post 3 of	a	Department is	unreserved
Post 4 of	a	" "	unreserved

So on and so forth.

In a 'roster' system at a given time the rate of reservation may work out to be very high or very low. Another difficulty is due to non-availability of reserved category candidates in some areas or subjects. This has become more difficult because of the absence of a backup long term policy under Art.15 (4). In view of these arguments of (1) a few posts; (2) allocation of post can hardly be proportionalised on subject basis as per the rate of reservation; and (3) in some subjects reserved category applicants are very few in number etc., some Universities, like in the *Verma's case*, the Nagpur University provided reservation on the category-wise posts. The reservation of a post for a subject was, therefore, made dependent on the availability of applicants for that category of post in a subject. Advantages of such cadre-wise reservation are :

1. Required percentage of reservation is possible ;
2. Universities can allocate posts on the basis of availability of competent reserved category applicants in any subject;
3. At a given time out of the total cadre in the University teaching assignments adequate representation of SC/ST's is possible;
4. In subjects where there are more competent hands available from SC/ST candidates more of them can be taken;
5. It is in conformity with the spirit of Art.335 where reservation is provided on the total services taken into consideration. Even Art.16 (4) also talks about representation in the services as a whole and not on the microlevel components in posts of individual Departments.

There are of course disadvantages too as pointed out by the Supreme Court, which are as follows :

1. "Neither the University nor the candidates know at the time as to for which of the subjects and in what number the said posts were reserved".
2. "Candidates belonging to the reserved category in particular who wanted to apply for the reserved posts did not know for which of the posts they could apply and whether they could apply at all for the posts in the subjects in which they were qualified...."
3. "The Selection Committees which were appointed to interview the candidates for respective posts did not also know whether they were interviewing the candidates for reserved posts or not, and to assess merits of the candidates for the reserved category as such candidates".<sup>11</sup>

The counter-arguments of the above were also visualised by the Supreme Court as follows :

1. "...all those belonging to the reserved category who wanted to apply for all the said posts had done so even without knowing that the concerned posts were reserved.
2. "It also presumes that all eligible candidates from unreserved category had applied for the posts without knowing whether the posts were reserved or not".

After assessing both the sides, the Supreme Court in the *Verma case* decided that the reservation has to be post-wise i.e. subject-wise when reservation is needed to be made "in posts".

The Supreme Court has given the rationale suggesting that the cadre-wise reservation will have the following defects:

- a) The possibility that many eligible candidates belonging to both categories might not have taken the risk of uncertainty in the absence of clear provisions ;
- b) Uniform weightage marks to the candidates of reserved category is unsuitable because the suitability for a reserved category has to be adjudged by taking various factors into consideration.
- c) This method provides a scope to eliminate unwanted selected candidates at the final stage.

All said and done, what is wrong if cadre-based reservation is made asking all qualified candidates to apply for all posts with a provision to give special weightage to SC/ST candidates where available. In the above case Supreme Court presumes that there are good number of qualified candidates in each category of applicants so that unless post-wise and subject-wise reservation is made there is likely to be an injustice. In fact, the E.C's late response in identifying the reserved posts was most objectionable in this case. Generally the Universities suffer from the difficulty of identifying a post as reserved and then are unable to get applications from sufficiently qualified candidates from the reserved category. That compels the University to keep posts vacant indefinitely at the cost of studies. This difficulty can be mitigated if there is cadre-wise reservation with a provision of weightage for the SC/ST applicants. Supreme Court's decision could create further difficulties for the Universities because of lack of qualified and competent applicants in the reserved categories in certain subjects specially in the higher cadres.

Of course, in *Verma's case* there was nothing on record to show as to how weightage was given for SC/ST candidates. There was no reply to the question as to why all posts created in 6th plan were only reserved for SC/ST candidates and what was the criteria on which a reservation was made on the posts and subjects late after the selection. There were obviously procedural lapses.

*Was the employment notice invalid ?*

The Supreme Court in this case decided that if post-



wise and subject-wise reservation was not made at the time of employment notice, the notice became vague and the purpose of the notice was defeated. Hence the notice was 'bad in law'. In *Raj Kumar v Gulbarga University*<sup>12</sup> the Full Bench of the Karnataka High Court decided that reservation must be indicated post and subject-wise at the time of notice. But in case of Professor's cadre, the Court held a cadre-wise reservation would be justified. In view of the fact that subject-wise posts of Professor's cadre are very few in number, reservation scheme can hardly be implemented. In one post of a professor there cannot be any reservation.<sup>13</sup> So cadre-based reservation in the posts of Professors is a kind of attempted reconciliation with the ground problem and legal problem. But the Supreme Court in *Verma's case* has not considered any ground problem at all.

#### *Natural justice to newly appointed teachers when employment notice is void in law*

The Court in *Verma's case* decided that when the notice is void in law there would be no requirement for natural justice principle in terminating the services of the wrongly recruited teachers. The earlier decision in this regard was that, in *Bhakare's case* which held the cadre-wise reservation to be valid and justified. Now that the present law under *Verma's case* decided in the Supreme Court was that reservation should be post and subject-wise to be notified in the employment notice itself, what shall happen to the appointments made till this decision was reported but which was in conformity with the earlier interpretation? The Supreme Court held that :

"When the court decides that the interpretation of a particular provision as given earlier was not legal, it in effect declares that the law as it stood from the beginning was as per decision, and that it was never the law otherwise".

This seems to be creating administrative problems to the extent of paralysing<sup>14</sup> the teaching process in the University if the teachers appointed in between these two case decisions have to lose their job on the ground of appointments becoming 'void ab initio' because the employment notice has been found to be void in law. The Court held the decision of terminating the services of teachers to be justified.

Employment contract is based on the letter of appointment which happens to be the offer, and acceptance is made by the person who gets the offer letter. A question may, therefore, be raised as to whether an information void in law in the employment notice can challenge the whole contract of service ! If, of course, offer is itself unlawful or void in law, the service agreement becomes void ab initio.

University authorities may be in the dilemma. If they make reservation against specific post in a subject they are likely to get no response at least in some subjects if not in most areas. If reservation is made on the basis of cadre, the notification itself becomes bad in law. In both the cases, students are the sufferers. I think there is sufficient scope for rethinking about the whole affair and making a practical adjustment so that reserved categories may be benefited as well as students do not suffer on account of delay in appointment of teachers.

#### Concluding remarks

Any decision made on issues like this is bound to create counter-issues and problems and as such, the decision whether interpretative or otherwise, need only be prospective. The real problem is non-availability of qualified applicants for each category of post and as such the supposition that many applicants would not have responded to any advertisement is not practical. Any post kept reserved on absolute term can create administrative problems and hazards, much to the detriment of students, hence must be avoided. Karnataka High Court tried an alternate mode of reconciliation in their interpretation in *Raj Kumar's case*. An alternate reconciliation to the satisfaction of all concerned is also possible.

#### Notes & References

1. *University of Madras v Shanta Bai* AIR 1954 Mad 67, where it was held that the words 'local and other authorities' in Art. 13 must be construed ejusdem generis with the 'Government and the legislature....' and so construed can only mean authorities exercising governmental functions and cannot include persons natural or juristic who cannot be regarded as instrumentalities of the Government, such as a University unless it is 'maintained by the State'.

##### Author's Note :

This text of instrumentalities of the State has been a test of the past. Presently the concept of State is very widely construed in order to meet the maximum under the concept by using any latent or patent connection with the 'state' or government. Universities are certainly considered as a State since it is constituted by a Statute and is vest with all rule making powers as well as having financial relation with either the Central or the State Government.

2. *Dr. Suresh Chandra Verma and others v Chancellor, Nagpur University & others*, 1 L.L.J. (1991)p 574. In this case the position of reservation under the Act of the University was contested.
3. Art. 15(4)
- 3A. Art. 16(4)
4. *Supra* note 2
5. *Supra* note 2
6. 1985 Lab.I.C. 148 (Bom)
7. *Supra* note 2
8. *Supra* note 2
9. *Dr. Chakradhar Paswan V State of Bihar & Others* (1988) 2 SCC 214
10. As for example, See G.O.No. DPAR 29 SBC 77 dated April 27, 1978 of Karnataka
11. *Supra* note 2
12. ILR (1990) Kar 2125
13. *Re. Dr. Chakradhar Paswan*, op.cit p. 214
14. *S.L. Kapoor V Jagmohan*, AIR 1981 SC 136



## Refresher Course in Geography

The Academic Staff College, Gorakhpur University, in collaboration with the Department of Geography, organised the IInd refresher course in Geography recently. The course was inaugurated by Prof. Raghuveer Singh, former Head, Department of Political Science.

Prof. Jagdish Singh, Coordinator of the course and Head, Department of Geography, in his introductory remarks explained the utility of organising such refresher courses and said that Geography had been a dynamic Science; its fundamental concepts and subject matter had been changing according to the philosophical views and contemporary socio-economic problems and scientific spirit. A refresher course played a useful role to acquaint the researchers with recent trends and advances in the subject. The theme of the Refresher Course chosen, he said, sought to explain the paradigm shift in the subject, highlight the concept and need for economic development and impart training in using remote sensing techniques which were now indispensable for tackling the contemporary economic development problems.

Prof. Raghuveer Singh in his inaugural address on 'Man Development and Nature' lamented that the scientific and technological developments started the momentum of over exploitation of resources and promoted a materialistic view to consume more and more which resulted in environmental degradation, pollution, diminishing quality of physio-biological resources and ecological imbalance. He

said that the continued exploitation of natural resources for man's selfish purposes and the process of environmental degradation was accelerated with the advent of industrialisation and scientific progress as a mechanism for speeding up economic development.

### Courses on Environmental Planning & Management

The Bharathidasan University, Trichi proposes to conduct a few short-term courses during this year on 'environmental planning and management' for the benefit of professionals, planners and administrators in the state. This was announced by Dr. S. Muthukumaran, Vice-Chancellor of the Bharathidasan University at the inaugural meeting of the Environmental Awareness Club of the Holy Cross College (Autonomous), held recently at Tiruchirapalli.

He said that the first course would be for the municipal commissioners because of the reason that the municipalities were the prime polluters of the surroundings due to the poor disposal of sewage and garbage resulting in water-borne diseases, etc. In order to have effective planning and management on environmental matters, the administrators of the municipalities, which are autonomous in their functioning, were to be given in-service programmes from time to time, he added.

Dr. Muthukumaran said that the country at present had a large population of about 320 million between 10 and 20 years of age, which

constituted about 40 percent of total population. This age group had greater inner potential and could easily mingle with children and adults in the community. Therefore, any investment on them regarding environmental consciousness, would fetch good results in the long run, he added.

Dr. S. Srinivasan, Secretary Society for Environmental Education (SEE), Tiruchirapalli in his keynote address announced that an annual award entitled 'NASA Foundation Award' had been instituted recently to encourage and recognise the services rendered by the environmental awareness clubs in the area of environmental sanitation. He further said that the society in association with the university has planned to publish two books — one on 'Environmental Glossary' and the other on 'Environmental Acts' for the promotion of Tamil Language in the field of environment.

Rev. Sr. Elizabeth Rose, Principal of the Holy Cross College in her presidential address appealed to the students to live along with nature and to propagate its message among the public in order to protect and conserve the valuable natural resources for the generations to come.

### Standard Textbooks in Tamil

The Bharathidasan University has launched a project of preparation and publication of standard textbooks in Tamil for the undergraduate courses. This is in pursuance of the New Education Policy in using the mother tongue as the medium of instruction from the



primary to Ph.D. levels of Education, and the policy of the Government of Tamil Nadu for encouraging Tamil at all levels. In the first phase, the five disciplines of Physics, Chemistry, Zoology, Economics and Commerce have been chosen. So far 61 books have been assigned covering 26 papers for the first year, 13 papers for the second year and 22 papers for the third year of the undergraduate courses. The university is also exploring the possibility of preparing textbooks for BSc Computer Science Courses.

The University has created a Revolving Fund and allocated Rs.2.50 lakhs for this purpose. The expenses incurred for the publication will be met out of the Revolving Fund and the sale proceeds will be ploughed back to the Fund so that more and more books can be published. The Government of Tamil Nadu has also sanctioned Rs.5.00 lakhs as a Revolving Fund to this University, under the Scheme of Publication of Text Books in Tamil by the Universities in Tamil Nadu.

### **IT Exemption to Donations for Soc Sc Research**

Dr. Manmohan Singh, Union Finance Minister in his budget speech announced that 100% tax exemption is being granted from income tax to donations made to approved university/college or other institutions for research in Social Sciences also by the tax payers not carrying on any business or profession. Thus far this exemption was available only to tax payers carrying on a business or profession for research in Social Sciences related to the class of business carried on by them.

It will be recalled that the Association of Indian Universities had earlier presented a memorandum to Dr Manmohan Singh to provide 100% tax exemption from income tax to donors for donations made for research in Social Sciences also. Dr. Singh had incorporated this proposal in the Finance Bill 1991-92 which has been passed by the Parliament recently.

### **Rs. 2 Cr. Aid for MDU**

The Haryana Chief Minister, Mr. Bhajan Lal, recently announced a special grant of Rs 2-crore for the various development and welfare works in Maharshi Dayanand University, Rohtak.

Mr Bhajan Lal, who was addressing a meeting of the faculty members, students and others employees of the university after inaugurating a sports complex in its campus announced that the doctors doing M.D. after MBBS would be given pay scales on Delhi pattern. He also agreed to introduce sociology at 10 + 2 and college level in M.D. University.

The Chief Minister called upon the student community to be an important tool in bringing prosperity through maintaining peace and harmony in the state.

### **UGC Grants for Kakatiya University**

The University Grants Commission (UGC) has sanctioned Rs.1.10 crores to Kakatiya University under the VIII Plan for the development of University College of Pharmaceutical Sciences. According to Prof. Jafar Nizam, Vice-Chancellor of the university a provision of Rs.37 lakhs

has been made for meeting the expenditure on an additional building and Rs. 10 lakhs for hostel building. A sum of Rs.15 lakhs has been provided for the purchase of books and journals while a sum of Rs.22 lakhs for equipment.

Prof. C. K. Kokate, Coordinating Officer of the UGC Unit informed that the UGC had also sanctioned two posts of Professors, two Lecturers, one Assistant Librarian and one Technical Officer besides making provision for Rs.4.50 lakhs towards working expenses and Rs.4.50 lakhs for the purchase of vehicle and reprographic machine.

Prof. Kokate further informed that with this, the University College of Pharmaceutical Sciences had so far been sanctioned Rs.2.0 crores since its inception in 1981, the biggest grant ever sanctioned to any of the colleges under the jurisdiction of the Kakatiya University.

### **Bankers Recognise Bank Management Programme**

The first batch of Master of Bank Management (MBM) Programme students has come out from the Department of Bank Management, Alagappa University, the only department of its kind in the country offering postgraduate and research programmes in Bank Management. The successful candidates are being absorbed in various banks as Management Trainees. The Vysya Bank Limited, Bangalore — India's No 1 private sector bank, conducted the campus interview and made the recommendation to the Manpower Committee. The City Bank has a plan to interview the top four rankers in the Senior MBM Programme to offer them placement for 'Project Oriented Practical Training'.



## News from Agricultural Universities

### Electronic Media Workshop

A seven-day National Workshop on "Use of Electronic Media for Communication of Farm Technology" organized in the Communication Centre of the Punjab Agricultural University (PAU) in collaboration with the Union Ministry of Agriculture recently concluded at Ludhiana. Dr. Khem Singh Gill, Vice-Chancellor of the PAU presided over the concluding function.

Mr. Jagjit Singh Hara, Member of the Board of Management of the PAU and an internationally acclaimed progressive farmer shared his experiences with the delegates of the Workshop and other experts. He appreciated the role of the Jalandhar Station of All India Radio for quick dissemination of the latest farm technology among the farmers which resulted in the advent of green revolution in this part of the country. Mr. Hara lauded the role of television and said that though it was a new medium of communication, it had assumed great importance in communicating the farm technology among the farmers. He urged the Doordarshan authorities to prepare films on the judicious use of farm inputs, timely control of insect-pests and pollution control.

Over 100 delegates from Maharashtra, Madhya Pradesh, Rajasthan, Haryana, Himachal Pradesh and Punjab attended the Workshop.

### Biological Control of Crop Pests

Dr. S. Jayaraj, Vice-Chancellor of the Tamil Nadu Agricultural

University delivered a lecture on 'Progress and Perspective of Integrated Pest Management in India' at the Punjab Agricultural University (PAU) recently. The lecture was delivered at the seminar organized by the Indian Society for the Advancement of Insect Science (INSAIS) of the PAU in a lecture series on topics of current importance of crop protection.

Dr. Jayaraj said that there was a need of sustainable agriculture for enhancing farm production with the increased use of farm inputs. He further said that among various avenues for avoiding disruption in

the ecosystem, the bio-control approach was the safest and an ideal one. Another important area was to develop insect pest and disease resistant crop varieties with the use of biotechnology. He urged for providing an effective surveillance of pest and disease problems in the state through an integrated pest management programme.

Dr. Khem Singh Gill, Vice-Chancellor of the PAU, who presided, reiterated that the PAU had already taken up the surveillance programme for dreaded pests like Heliothis on major crops like cotton, gram and sunflower. He disclosed that a biotechnological centre had also been established to conduct research on the control of pests and diseases through biotechnological tools.

## News from UGC

### Courses in Functional Hindi

The University Grants Commission (UGC) has decided to provide financial assistance to selected universities in the country for introduction of courses in functional Hindi at postgraduate and undergraduate levels with a view to improve the employability of university graduates. At the postgraduate level, courses in Journalism, and Translation and at the undergraduate level, a course in Functional Hindi (B.A. Hons.) will be introduced. Besides teaching positions, each selected institution will be given grants for books and journals and contingencies including honorarium to guest teachers, travelling allowances etc. It is proposed to assist only one university in a State for a period of five years for these courses. The State university will have to obtain the approval of the concerned State Government to take over the liability in respect of the teaching

posts after the assistance from the Commission ceases.

The Commission is at present assisting various universities for running certificate and diploma courses in Applied Hindi. For this purpose 36 universities have already been identified.

Introduction of these utilitarian courses in Hindi is in pursuance to the recommendations of the Hindi Teaching Committee of the Ministry of Human Resource Development, Government of India.

### We Congratulate...

Dr. G. Ram Reddy, Vice-President, Commonwealth of Learning, Vancouver (Canada), who has been named as the Chairman of the University Grants Commission.



## Commonwealth Fellowships, Scholarships

The University Grants Commission has invited nominations by October 20, 1991 of suitable teachers from Universities and Colleges for the award of Commonwealth Academic Staff Fellowships and Scholarships for the year 1992-93. Each university has been advised to nominate not more than four (two for fellowship and two for scholarship) teachers including from its affiliated colleges.

The Fellowships tenable for one academic year are intended to help the teachers working in the universities and affiliated colleges to enhance their teaching and research experience by working in similar institutions in the United Kingdom. The scholarships are normally for two academic years to enable the awardee to complete his Ph.D.

## News from Abroad

### Post-doctoral Fellowship Available

A group of the INSERM U-2II, under the auspices of the French National Institute for Health and Medical Research, working on the immune response against human cancers is looking for a post-doctoral research fellow for 1-2 years. Previous experience with protein and peptide analysis and molecular biology techniques (PCR, gene cloning and sequencing, transfection) would be an advantage. The work will concern the molecular characterisation of antologous tumor-recognition by tumor in-

filtrating lymphocytes (TIL). The group has already produced melanoma-specific CD4+ and CD8+ TIL clones. These clones are used to analyse the TCR repertoire and the tumor-associated antigens involved in T cell mediated immune reactions against human cancer.

Further details may be obtained from Mr Pierre Barroux, Counsellor for Cultural, Scientific & Technical Cooperation, French Embassy, 2, Aurangzeb Road, New Delhi 110 011.

## CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be Contacted
December 9-26, 1991	Winter School on use of Statistical Software	To introduce college and university teachers to computer-oriented statistical methods and to train them in the use of statistical software packages.	Indian Statistical Institute, Calcutta	The Course Director, Winter School on use of Statistical Software, Computer Science Unit, Indian Statistical Institute, 203, Barrackpore Trunk Road, Calcutta-700 035
December 14-16, 1991	International Conference on Man & Environment	To discuss issues concerning the future of man and preservation of the unique planet earth	Motilal Nehru Regional Engineering College, Allahabad	Dr. R.K. Srivastava, Organising Secretary ICOMEN - 91, Department of Civil Engineering, Motilal Nehru Regional Engineering College, Allahabad - 211004
March 9-15, 1992	International Conference on Experiential Learning	To promote experiential learning and other scientific, educational, cultural and related activities and spiritual pursuits	Indian Society for Experiential Learning, Pondicherry	Prof. S. Mohan, Prof. of Physics, Pondicherry University, Pondicherry



# AIU Library & Documentation Services

One of the important functions of the Association of Indian Universities is to act as a clearing house of information on higher education in the country. Towards this end the AIU Library is engaged in collection building and developing instruments for the dissemination of research information. Over the years a valuable collection of books and documents on different aspects of higher education has been acquired.

The library has also developed Bibliography of Doctoral Dissertations as an effective tool in the dissemination of research information. Retrospective bibliographies covering the period 1857-1970 and 1970-75 were the first to appear. Effective 1975, however, the bibliography is issued annually in two volumes. One volume deals with Natural and Applied Sciences while the other records doctoral degrees awarded in Social Sciences and the Humanities. In addition to the normal bibliographical details like the name of the Research Scholar, the title of the thesis, years of registration for and award of the degree, and the name of the University accepting the thesis for award of a doctoral degree, the bibliography also gives name and complete address of the supervising teacher and an availability note that seeks to inform whether a copy of the dissertation is available for consultation and use in the University Library/Department or Registrar's Office.

The columns 'Theses of the Month' and 'Research in Progress' are intended to cut out the time lag between the receipt of information and its inclusion in the bibliography. Such universities as are not sending us regular information in respect of doctoral theses accepted and research scholars enrolled are welcome to make use of these columns.

The library also receives about a 100 periodical titles on higher education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'. Similarly the column 'Education News Index' reports editorials and articles on higher education published in over 20 newspapers that are received in the library from all over the country.

The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday.

## CURRENT DOCUMENTATION IN EDUCATION

### A list of select articles culled from periodicals received in AIU Library during September 1991

#### EDUCATIONAL PHILOSOPHY

Breinbauer, Ines M. What is general theory of education, and to what end is it studied? *Education* 43, 1991, 7-19.

Hilgenheger, Norbert. Two-dimensional presentation form in J.F. Herbart's 'Allgemeine Pädagogik'. *Education* 43, 1991, 100-12.

Wunsche, Konrad. Finiteness of the educational theory movement. *Education* 43, 1991, 29-44.

#### EDUCATIONAL SOCIOLOGY

Bowman, Mary Jean. Educational inequalities and opportunity in economic perspective. *Oxford Review of Edn* 17(2), 1991, 189-209.

Coleman, James S. What constitutes educational opportunity? *Oxford Review of Edn* 17(2), 1991, 155-9.

Eysenck, H J. Equality and education : Fifteen years on. *Oxford Review of Edn* 17(2), 1991, 161-7.

Jensen, Arthur R. Spearman's  $g$  and the problem of educational equality. *Oxford Review of Edn* 17(2), 1991, 169-87.

Marjoribanks, Kevin. Education and equality : A review. *Oxford Review of Edn* 17(2), 1991, 211-21.

MISCONDUCT IN research : The policy of the University of Delaware. *Minerva* 29(2), 1991, 226-30.

#### EDUCATIONAL PLANNING

Ostar, Allan. Reflections on the legacy of Harry S Truman. *Ednl Research* 72(2), 1991, 39-41.

#### EDUCATIONAL ADMINISTRATION

Adrian, W Richards and others. Industry - University collaboration at the University of Massachusetts. *Industry and Hr Edn* 5(1), 1991, 15-21.

Cloud, Robert C. Stress management primer for college administrators. *Ednl Record* 72(3), 1991, 31-4.

Connor, S and others. Technology transfer between industry and higher education : The UK teaching company scheme. *Industry and Hr Edn* 5(2), 1991, 97-104.

Croome, Derek J. Educational futures for the construction industry. *Industry and Hr Edn* 5(1), 1991, 35-46.

Feller, Irwin. Issues for the HE sector : Lessons from US experiences with collaboration. *Industry and Hr Edn* 5(2), 1991, 73-8.



Gmelch, Walter H. Paying the price for academic leadership : Department chair tradeoffs. *Ednl Record* 72(3), 1991, 45-8.

Lefkoff, Kyle. University spin-off corporations at the University of Colorado. *Industry and Hr Edn* 5(2), 1991, 92-6.

Maher, Theodore J. US technology and economic development strategies : Initiatives at federal and state levels. *Industry and Hr Edn* 5(1), 1991, 22-9.

Shaw, John Calman. Integrating practical skills in higher education. *Industry and Hr Edn* 5(1), 1991, 7-14.

Siegel, Dorothy. Crisis management : The campus responds. *Ednl Research* 72(3), 1991, 14-6.

Tiler, Christine and Gibbons, Michael. Case study of organizational learning : The UK Teaching company scheme. *Industry and Hr Edn* 5(1), 1991, 47-55.

Watson, Denny. EC-level developments in the 1980s affecting the industry-higher education. *Industry and Hr Edn* 5(2), 1991, 87-91.

### CURRICULUM

Mitter, Wolfgang. Structural issues of the education system : An international comparison focussing mainly on the industrial countries. *Education* 43, 1991, 62-79.

Mollenhauer, Klaus. Is an aesthetic education possible? *Education* 43, 1991, 80-99.

### TEACHERS & TEACHING

Lakshmi, T K S. National framework for teacher education curriculum - A few observations. *New Frontiers in Edn* 21(2), 1991, 244-61.

### EDUCATIONAL EVALUATION

Smittle, Pat. Assessment's next wave : The computerized placement tests. *College Board Review* 156, 1990, 22-7.

### ECONOMICS OF EDUCATION

Hauptman, Arthur M. Meeting the challenge : Doing more with less in the 1990s. *Ednl Research* 72(2), 1991, 6-13.

Smith, Peter. Beyond budgets : Changing for the better. *Ednl Research* 72(2), 1991, 26-8.

### SCIENCE EDUCATION

Sudhakar, V. Scientific creativity : Rom Harre's idea of science as icon and its implications for science education. *New Frontiers in Edn* 21(2), 1991, 239-43.

### ADULT EDUCATION

Friedenthal-Haase, Martha. Adult education and crisis in the thought of Martin Buber. *Education* 43, 1991, 45-61.

Vaughan, George B. Institutions on the edge : America's community colleges. *Ednl Research* 72(2), 1991, 30-3.

### COMPARATIVE EDUCATION & COUNTRY STUDIES

Gore, M S. Post-independence socio-economic development, in India and higher education. *New Quest* 87, 1991, 157-65.

Hohnholz, Jurgen H. Education and development in the third world : Some observations on the spot by a geographer. *Education* 43, 1991, 20-8.

Omari, I M. Innovation and change in higher education in developing countries : Experiences from Tanzania. *Comp Edn* 27(2), 1991, 181-205.

Sadlak, Jan. Use and abuse of the university : Higher education in Romania, 1860-1990. *Minerva* 195-225.

## THESES OF THE MONTH

### A list of Doctoral Theses accepted by Indian Universities

#### BIOLOGICAL SCIENCES

##### Anthropology

1. Gurinder Kaur. **Physical growth physiological maturity and body composition in Brahmins of Punjab.** Punjabi. Dr D P Bhatnagar, Reader, Department of Human-Biology, Punjabi University, Patiala.

##### Environmental Sciences

1. Deka, Dilip Kumar. **A study of seismic activity in the North East India and determination of its seismic potential.** Gauhati. Dr S K Sarmah, Prof and Head, Department of Environmental Science, Gauhati University, Guwahati.

2. Panda, Rahas Bihari. **A study of water pollution in the River Brahmani at Rourkela Industrial Complex.** Sambalpur. Dr B K Sinha, Reader, Department of Chemistry, Sambalpur University, Jyoti Vihar, Burla.

3. Sharma, Praveen Kumar. **Investigation on air quality assessment in some coal mining areas of Raniganj Coalfield of India.** ISM. Dr Gurdeep Singh, Indian School of Mines, Dhanbad.

4. Sri Krishna Murthy, Akella. **Inheritance of total alkaloids yield and yield components in flue-cured tobacco, N tabacum L.**

##### Andhra.

##### Biology

1. Basu, Dipak Kumar. **Ecology of benthic amphipod (Arthropoda: Crustacea) in the mangrove ecosystem of Sundarbans.** Calcutta.

2. Choudhury, Saroj Bandhu. **Hydrobiological studies in the coastal waters of Gopalpur: Ecology of phytoplankton.** Berhampur. Dr R C Panigrahy, Reader, Department of Marine Science, Berhampur University, Berhampur.

3. Cyriac, P J. **Toxicological studies on Oreochromis mossambicus Peters.** CUST. Dr A Antony, Reader, Department of Marine Sciences, Cochin University of Science and Technology, Kochi and Late Dr P N Krishnan Nambisan.

4. Joseph, Jomon. **Studies on the dynamics of Cochin Estuary.** CUST. Dr P GopalkrishnaKurup, Prof and Head, Physical Oceanography and Meteorology Division, Department of Marine Sciences, Cochin University of Science and Technology, Kochi.

5. Joshi, K K. **Nature and ecological significance of nutrient regeneration in different prawn culture fields.** CUST. Dr P Parmeswaran Pillai, Scientist, Central Marine Fisheries Research Institute, Kochi.



6. Poddar, Tapan Kumar. **Studies on the ecology of beetles from the intertidal sand flats of Sagar Island, India with special reference to rove-beetles (Coleoptera: Staphylinidae).** Calcutta.

7. Valsalakumari, C S. **Physiology of the blood of cat fishes.** CUST. Dr C T Samuel, Prof (Retd), Department of Industrial Fisheries, Cochin University of Science and Technology, Kochi.

8. Vijayakumaran, M. **Energetics of a few marine crustaceans.** CUST. Dr P V Ramachandran Nair, Principal Scientist (Retd), Central Marine Fisheries Research Institute, Kochi.

#### Biochemistry

1. Bandyopadhyay, Smarajit. **Physicochemical and biochemical studies on calmodulin.** Calcutta.

2. Bera, Tapan Kumar. **The mutator genes of *Vibrio cholerae*.** Calcutta.

3. Bhattacharyya, Basabi. **Studies on the regulation of tubulin gene expression during brain development.** Calcutta.

4. Martis, Gladys F. **Role of indigenous drugs in epileptic models.** Mangalore. Dr (Mrs) Anjali Rao, Prof, Department of Biochemistry, Kasturba Medical College, Manipal.

5. Misra, Mahendra Kumar. **A biochemical study of some psychiatric disorders.** BHU. Dr H P Singh.

6. Mukhopadhyay, Debabrata. **Studies on DNA damage and its repair associated with cancer.** Calcutta.

7. Nayak, Sudhakar S. **Studies on cholesterol efflux protein in human plasma in health and disease.** Mangalore. Dr A R Aroor, Prof and Head, Department of Clinical Biochemistry and Nutrition, Kasturba Medical College, Manipal.

8. Pal, Ruma. **Biochemical, genetic and immunological studies on enteropathogenic *Escherichia coli* (EPEC).** Calcutta.

9. Panikkar, Beena. **Biochemical and pharmacological properties of medicinal plants.** Calicut. Dr Ramadasan Kuttan, Amala Cancer Research Centre, Amalanagar, District Trichur.

10. Ramachandra Prabhu, H. **Alpha-tocopherol, ascorbic acid and retinol in erythrocyte metabolism with special reference to toxic free radicals and enzymes-superoxide dismutase, glutathione peroxidase and glutathione reductase.** Mangalore. Dr S Krishnamurthy, Prof and Head (Retd), Department of Biochemistry, Kasturba Medical College, Manipal.

11. Satyanarayana Singh, S. **Legume-rhizobe interactions-Phaseolus mungo lectin interactions with *Rhizobium phaseoli*.** Osmania.

12. Shetty, Sreerama. **Biochemical properties of pigeon milk.** Mangalore. Dr S N Hegde, Prof, Department of Biosciences, Mangalore University, Mangalagangothri.

13. Singh, Durg Vijai. **Studies on certain virulence properties of *Aeromonas hydrophila*.** BHU. Prof S C Sanyal.

14. Srivastava, Vinod Kumar. **Biochemical studies and immune response to *Entamoeba histolytica* infestation with special reference to its pathogenicity.** BHU. Dr A K Jain.

15. Tikoo, Kiran. **Studies on glyceraldehyde-3-phosphate dehydrogenase.** BHU. Prof O P Malhotra, Department of Biochemistry, Banaras Hindu University, Varanasi.

#### Microbiology

1. Kanta, R C. **Studies on the exploration of starchy substrates**

**for alcohol production with special reference to maize and millets.** Gulbarga.

2. Patel, Seema Jashbhai. **Some studies on gluconic acid production by fermentation and immobilized enzyme system.** Patel. Datta Madamwar, Reader, Department of Biosciences, Sardar Patel University, Vallabh Vidyanagar.

3. Sahasrabudhe, Anjali Vithal. **Bacterial degradation of halogenated aromatic compounds.** Baroda.

#### Botany

1. Akram Hyder, M. **Pathological investigation concerning seed borne infection of *Glycine max* L by *Fusarium* species in storage.** Gauhati. Dr D N Baishya, Prof, Department of Botany, Gauhati University, Guwahati.

2. Badami, Pranesh S. **Mutagenic and tissue culture studies in *Cyamopsis tetragonoloba* (L) Taub.** Osmania.

3. Bhaumik, Chhabi. **Revisionary studies on certain genera of the family Rosaceae in India.** Calcutta.

4. Chambial, Savita. **Effect of grazing and burning on structure, productivity and nutrient cycling of the grassland vegetation at Panechi, Shimla.** HP.

5. Ghosh, Anuradha. **Production of glucoamylase by *Aspergillus terreus*.** Calcutta.

6. Hasna Hena Begam. **Regulatory mechanisms of senescence in some aquatic angiosperms.** Burdwan. Prof Monojit Acharya Choudhury, Department of Botany, University of Burdwan, Burdwan.

7. Ida, D'Silva Icy. **Micropropagation of *Ailanthus* and *Anacardium occidentale* through tissue culture.** Mangalore. Dr Leo D'Souza, Director, Laboratory of Applied Biology, St Aloysius College, Mangalore.

8. Joshi, Sushil Kumar. **Production and decomposition of litter in a tropical mixed wood forest from Orissa, India.** Sambalpur. Dr N Behera, Lecturer, Department of Life Science, Sambalpur University, Jyoti Vihar, Burla.

9. Kalkar, Surekha Anil. **Aerobiological studies of Nagpur Region, Maharashtra.** Nagpur. Dr G V Patil, Department of Botany, Institute of Science, Nagpur.

10. Madhava Reddy, M. **Mutagenic studies in safflower, *Carthamus tinctorius* L.** Osmania.

11. Mallick, Nirupama. **Studies on certain physiological and biochemical characteristics of *Anabaena doliolum* and *Chlorella vulgaris* under heavy metal stress.** BHU. Dr L C Rai, Reader, Department of Botany, Banaras Hindu University, Varanasi.

12. Malviya, Hitesh Kumar. **Studies on biodegradation of keratin by keratinolytic fungi isolated from gelatin factory campus and their potentiality as human pathogens.** Durgawati. Dr S K Hasija, Prof and Head, Department of Bioscience, Rani Durgawati Vishwavidyalaya, Jabalpur and Dr R C Rajak, Department of Bioscience, Rani Durgawati Vishwavidyalaya, Jabalpur.

13. Md Shahjahan. **Ectomycorrhizal association of *Shorea robusta* G F in Jhargarm, District Midnapore of West Bengal.** Calcutta.

14. Mukhopadhyay, Partha Sarathi. **Seedborne fungi and the associated deterioration of some economic seeds in storage.** Burdwan. Prof Balen Nandi, Department of Botany, University of Burdwan, Burdwan.



15. Mukhopadhyay, Santirani. Cytological studies in gram, *Cicer arietinum* L, soybean, *Glycine max* and till, *Sesame orientale* L and effect of caffeine on soybean, *Glycine max*. Calcutta.
16. Nimmi, Cherukuri. Cytology of antipodal cells and endosperm during early seed development in pearl millet, *Pennisetum glaucum* (L) R Br. Andhra.
17. Pathak, Kartik Chandra. A detailed study on the hydrophytic flora of Guwahati and its vicinity. Gauhati. Dr C L Boissya, Prof, Department of Botany, Gauhati University, Guwahati.
18. Poddar, Ramit. Irradiation and hybridization experiments in rice with reference to salt tolerance. Calcutta.
19. Rajendra Prasad, H. Genecology and autecology of *Celosia argentea* complex. Osmania.
20. Ravi Prasad Rao, B. Flora of Nizamabad District, Andhra Pradesh, India. Krishnadevaraya. Dr T Pullaiah, Reader and Head, Department of Botany, Shri Krishnadevaraya University College, Anantapur.
21. Rama Krishna, Ambati. Investigations on induced genic male sterility in *Petunia axillaries* (Lam) BSP. Andhra.
22. Singh, Lalji. Biomass production and nutrient dynamics in a dry tropical forest. BHU. Prof J S Singh, Department of Botany, Banaras Hindu University, Varanasi.
23. Singh, Shiv Sahay. Effect of antitranspirant on plant growth. Dr D N Tyagi, Reader, Department of Plant Physiology, Banaras Hindu University, Varanasi.
24. Sudhakar Reddy, S. Ecological studies of the river Moosi with special reference to water pollution. Osmania.
25. Suvarnakhandi, Sadaksari Sangayya. Sporogenesis in some members of pteridophytes: A histochemical study. Karnatak. Dr C K Rudramuniyappa, Reader, Department of Botany, Karnatak University, Dharwad.
26. Vijay, Sunita. Effect of certain pollutants and bioregulators on the metabolism of Indian desert plants. Rajasthan. Dr S P Bohra, Assoc Prof, Department of Botany, University of Jodhpur, Jodhpur.
27. Yadav, Gangadhari Singh. Studies on two primary food plants: *Machilus bembycina* King (Som) and *Litsnea polyantha* Juss (Soalu) of muga silkworm, *Antheraea assama* Westwood. Gauhati. Dr B C Goswami, Reader, Department of Botany, Gauhati University, Guwahati.

#### Agriculture

1. Asthana, Jagdish Kumar. Effect of agrochemicals on crop yield, solubility of phosphatic fertilizers and stability of pesticides. CSAT. Dr Kalyan Singh, Assoc Prof, Department of Soil Science and Agricultural Chemistry, Chandra Shekhar Azad University of Agriculture and Technology, Kanpur.
2. Bal Vipan Chander. Studies on ethylene management and storage of packed apples, *Malus domestica* Borkh cv Red Delicious. Y S Parmar. Dr S K Chopra, Department of Fruit Culture and Orchard Management, College of Horticulture, Nauni, Solan, H P.
3. Bhargu Datt. Influence of bavistin and sulphur on Tikka disease and oil-filling in groundnut, *Arachis hypogaea* L kernel. PAU.
4. Borad, Vallabh Khoda. Biology, life tables and population development of *Bemisia tabaci* Gennadius on different hosts and its relation with spread of virus diseases on tomato and okra.

Marathwada Agrl. Dr S N Puri, Head, Department of Entomology, Marathwada Agricultural University, Parbhani.

5. Dharam Singh. Genetic analysis for some metric traits related to grain yield in pea, *Pisum sativum* L. CSAT. Dr C N Chaubey, Prof and Head, Department of Genetics and Plant Breeding, Chandra Shekhar Azad University of Agriculture and Technology, Kanpur.
6. Dimree, Sushil. Sulphur nutrition with and without graded doses of phosphorus in peanut, *Arachis hypogaea* in central alluvial soils of Uttar Pradesh. CSAT. Dr K N Dwivedi, Assoc Prof, Department of Soil Science and Agricultural Chemistry, Chandra Shekhar Azad University of Agriculture and Technology, Kanpur.
7. Jagdev Singh. Studies on the fruit cracking in lemon, *Citrus limon* (L) Burm. PAU.
8. Jayebhaye, Chandrakant Pandharinath. Response of sunflower, *Helianthus annuus* L genotypes to spacing under varying levels of nitrogen in rabi season. Marathwada Agrl. Dr R P Rodge, Chief Scientist, Water Management Project, Marathwada Agricultural University, Parbhani.
9. Katiyar, Suresh Chandra. Effect of row spacing, fertility levels and anti-transpirants on the growth and yield of rainfed mustard, *Brassica juncea* Czern and Coss. CSAT. Dr K S Bhatia, Assoc Prof, Department of Soil Conservation, Chandra Shekhar Azad University of Agriculture and Technology, Kanpur.
10. Keim, Dal Chand. Studies on nitrogen requirement of potato, *Solanum tuberosum* L and mustard, *Brassica juncea* Coss in association. CSAT. Dr K S Rathi, Prof, Department of Agronomy, Chandra Shekhar Azad University of Agriculture and Technology, Kanpur.
11. Kureel, Subedar. Studies on quality and yield contributory characters of rice as influenced by field preparation techniques and fertilizer treatments. CSAT. Dr R M Upadhyay, Assoc Prof, Department of Soil Science and Agricultural Chemistry, Chandra Shekhar Azad University of Agriculture and Technology, Kanpur.
12. Kurtadikar, Jivan Shankarrao. Studies on crop losses, economic threshold and chemical control of bollworms in Marathwada region. Marathwada Agrl. Dr A K Raodeo, Principal, Gram-sevak Training Centre, Parbhani.
13. Lal, Suresh Bahadur. Genetic analysis of yield and its components in mung bean, *Vigna radiata* (L) Wilczek. CSAT. Dr C N Chaubey, Prof and Head, Department of Genetics and Plant Breeding, Chandra Shekhar Azad University of Agriculture and Technology, Kanpur.
14. Mahajan, Ashok Ramulu. Studies on combining ability, heterosis and stability of performance using the line tester mating design in safflower, *Carthamus tinctorius* L. Marathwada Agrl. Dr Y S Nerkar, Director, Biotechnology, M/S Bharat Forge Ltd, Pune.
15. Mahavir Singh. Genetic analysis of smut resistance and some other maternal traits in a set of inbred lines in pearl millet, *Pennisetum typhoides* (Burm) S & H. HAU.
16. Misra, Sushil Kumar. Studies on yield maximisation and quality improvement in gram, *Cicer arietinum* L through use of fertilizer. CSAT. Dr R M Upadhyay, Assoc Prof, Department of Soil Science and Agricultural Chemistry, Chandra Shekhar Azad University of Agriculture and Technology, Kanpur.
17. Panda, Premananda. Foraging behaviour and pollination efficiency of different bee species in oilseed crops in Phulbani



District of Orissa. OUAT. Dr N Panda, Prof and Head (Retd), Department of Entomology, College of Agriculture, Orissa University of Agriculture and Technology, Bhubaneswar.

18. Rai, Sukhdev. Genetic analysis for yield attributes and quality traits in soybean, *Glycine max* (L) Merrill. PAU.

19. Rajender Parshad. Studies on gene effects and variances in association and dispersion crosses in bread and durum wheat. HAU.

20. Ramesh Chand. Conditioning of *Pinus roxburghii* Sargent seedlings for bare root planting. Y S Parmar. Prof N K Joshi, Director, Institute of Rain and Moist, Deciduous Forest Research, Jorhat, Assam.

21. Samdyan, Jage Singh. Effect of nitrogen levels and plant growth regulators on seed germination, growth, yield and quality of bitter gourd, *Momordica charantia* L. HAU.

22. Santokh Singh. Studies on strains and strain interaction in citrus greening. PAU.

23. Sharma, Rajni. Nutritional changes in legume grains during infestation with pulse beetle, *Callosobruchus chinensis* L. HAU.

24. Singh, Arvind Kumar. Studies on the method and amount of nitrogen fertilization and time of sowing in garlic, *Allium sativum* L. CSAT. Dr A Prosad, Prof and Head, Department of Horticulture, Chandra Shekhar Azad University of Agriculture and Technology, Kanpur.

25. Singh, Dharm Raj. Studies on population dynamics and control of linseed bud fly, *Dasyneura lini* Barnes. CSAT. Dr K M Srivastava, Entomologist (Oilseeds), Chandra Shekhar Azad University of Agriculture and Technology, Kanpur.

26. Singh, Nageswer. Biochemical behaviour of mustard genotypes grown under salt-stress situations. CSAT. Dr R K Pathak, Assoc Prof, Department of Agricultural Biochemistry, Chandra Shekhar Azad University of Agriculture and Technology, Kanpur.

27. Singh, Prem. Studies on nutritional requirements of crops grown on salt affected soils. CSAT. Dr K S Awasthi, Assoc Prof, Department of Soil Sciences and Agricultural Chemistry, Chandra Shekhar Azad University of Agriculture and Technology, Kanpur.

28. Singh, Raja. Studies on border and regular methods of transplanting dwarf paddy, *Oryza sativa* L under varying levels of fertility. CSAT. Dr K S Rath, Prof, Department of Agronomy, Chandra Shekhar Azad University of Agriculture and Technology, Kanpur.

29. Singh, Shiv Pujan. Effect of foliar feeding of nitrogen and boron on the growth, yield and quality of amla, *Emblica officinalis* Gaertn fruits. CSAT. Dr A R Singh, Assoc Prof, Department of Horticulture, Chandra Shekhar Azad University of Agriculture and Technology, Kanpur.

30. Solanke, Rajabhau Bhanudasrao. Seed pathology in relation to seed health and storability in sorghum, cotton, pigeonpea and sunflower. Marathwada Agrl. Dr S S Kore, Assoc Prof, Department of Plant Pathology, College of Agriculture, Parbhani.

31. Subramanyam, M. Effect of slow release nitrogenous fertilizers and nitrification inhibitors in crops. BIHU. Prof Bharat Singh.

32. Surender Singh. Effect of pre and post harvest factors on

the storage life of lemon, *Citrus limon* Burm cv Baramasis. HA

33. Verma, Mewa Lal. Studies on the synergistic effects combination of inorganic amendment and organic matter on amelioration and performance of rice and wheat crops in sodic soil. CSAT. Dr P Shukla, Assoc Prof, Department of Soil Science and Agricultural Chemistry, Chandra Shekhar Azad University of Agriculture and Technology, Kanpur.

34. Yadav, Ram Sharan. Behaviour of nitrogen and zinc in mustard varieties grown on alluvial soils of Kanpur. CSAT. Dr M Upadhyay, Assoc Prof, Department of Soil Science and Agricultural Chemistry, Chandra Shekhar Azad University of Agriculture and Technology, Kanpur.

## Zoology

1. Abdul Kadar, P K. Studies on the biochemical effects of diflubenzuron on the final instar larva of *Spodoptera mauritia* Boisduval. Calicut. Dr U V K Mohamed, Department of Zoology, University of Calicut, Calicut.

2. Balagopalan Kartha, K N. Effect of zero hour gonadectomy on the ontogeny of male sexual behaviour in relation to structure and function of sexually dimorphic nucleus of medial pre-optic area in rat. Calicut. Dr T Ramakrishna, Department of Life Sciences, University of Calicut, Calicut.

3. Bhattacharjee, Amal. Ecomorphological interrelationships in some hill stream fishes of the North Eastern Regions of India. NEHU. Dr J R B Alfred, Joint Director, Zoological Survey of India, Calcutta.

4. Chowdhury, Nasreen. Studies on the haemolymph cells of *Ctenolepisma longicauda*. Calcutta.

5. Deb, Debal. Seasonal studies on a heliozooplankton community dynamics: Environmental influence and trophic interactions. Calcutta.

6. Dharma Goud, K. Studies on certain aspects of a poultry parasite *Railletina cesticillus* (Cestoda). Osmania.

7. Garai, Alpana. Studies on the congenital malformation in encephalic fetuses. Burdwan. Prof Sudhangsu Kumar Ghoshal, Prof, Department of Zoology, University of Burdwan, Burdwan and Prof Shyamal Kumar Basu, Prof, Department of Anatomy, Burdwan Medical College, Burdwan.

8. Jain, Kalpana. Toxicity of certain pesticides on the reproductive physiology of some insects. H S Gour. Dr (Mrs) M Bhide, Department of Zoology, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

9. Mandal, Fatikbaran. Avian haemoproteids: Their transmission and possible vector/vectors along with present status in the wild. Burdwan. Prof Giridhari Majumdar, Department of Zoology, University of Burdwan, Burdwan and Dr A K Mandal, Zoological Survey of India, Calcutta.

10. Mandal, Gautam. Role of environmental temperature in seasonal adaptive variation of protein synthesis in tissues of *Channa punctatus* Bloch. Visva-Bharati. Prof A B Das, Department of Zoology, Visva-Bharati, Santiniketan.

11. Manish Kumar, P R. Investigations on the effects of certain antimicrotubular drugs and heat shock on UV irradiated plasmodia of *Physarum polycephalum*. Calicut. Dr R Vimala Nair, Department of Zoology, University of Calicut, Calicut.

12. Mishra, Sunita. Effect of certain chemical toxicants on fresh



water teleost. Vikram. Dr A B Saxena, Head, Department of Zoology, Vikram University, Ujjain.

13. Mohanty, Ashok Kumar. Studies on some physiological, biochemical and biometric aspects during development in the tasar silkworm, *Antheraea mylitta* Drury. Sambalpur. Shri A Mitra, Reader, Department of Life Science, Sambalpur University, Jyoti Vihar, Burla.

14. Paily, K P. Studies on the biology and biological control potential of *Romanomermis iyengari* Welch, a mermithid nematode parasite of mosquitoes. Pondicherry. Dr P K Rajagopalan, Department of Epidemiology, Vector Control Research Centre, Pondicherry.

15. Patil, Hilal Zinga. Effects of heavy metals on physiology of a fresh water snail, *Indoplanorbis exustus*. Marathwada. Dr A B Kulkarni, Reader, Department of Zoology, Marathwada University, Aurangabad.

16. Sahu, Jyoti Kumari. A prospective study of effect of snake venom on rats brain metabolism. Burdwan. Prof Giridhari Majumdar, Department of Zoology, University of Burdwan, Burdwan and Prof Chittaranjan Maity, Department of Biochemistry, Burdwan Medical College, Burdwan.

17. Sinha, Mina. Studies on some aspects of neuroendocrinological factors influencing male reproductive system in adult cockroach, *Periplaneta americana*. Calcutta.

18. Sinha, Neelima. Impact of pesticides on thyroid physiology in relation to reproduction in the freshwater fish, *Clarias batrachus*. BHU. Dr T P Singh, Prof, Department of Zoology, Banaras Hindu University, Varanasi.

19. Som, Krishna. Relation between hypothalamuspituitary axis, pineal and thyroid in white-throated munia, *Lonchura malabarica*. Burdwan. Prof Asit Kumar Sarkar, Department of Zoology, University of Burdwan, Burdwan.

20. Sridevi, Ch. Biochemical studies of cestode, *Raillietina R paucitesticulate* Fuhrmann, 1908 parasitizing *Streptopelia chinensis suratensis* Gmelin, 1789. Osmania.

#### Medical Sciences

1. Awadhesh Prasad. Pharmacognostical and pharmacological evaluation of some anti-inflammatory indigenous drugs. BHU. Dr A K Wahi.

2. Bhattacharyya, Sanat Kumar. Effect of thyroxine and anti-thyroid drugs on the digestive system of *Bufo melanostictus*. Calcutta.

3. Das, Parikshit Chandra. Involvement of central neurotransmitters in steroidal control of fertility in female rodent. Calcutta.

4. Dwivedi, Manjari. Role of Dhatryadi Yoga in Garbhani Paricharya. BHU. Prof (Km) P V Tiwari.

5. Dwivedi, Rakesh Kumar. Effect of indigenous drugs on the function of gastrointestinal tract. BHU. Dr R K Sharma.

6. Guru, Vinod Kumar. Role of central neurotransmitters in *Gallus domesticus*. Durgawati. Dr R C Agrawal, Prof and Head, Department of Physiology, Government Medical College, Jabalpur.

7. Jana, Parameswar. Role of different form of *Sigru*, *Moringa*

*oleferalam* on *mutrabaha srota dusthi* (urinary tract infection) and *prakriti*. Calcutta.

8. Jawahar Lal. Studies of some flora of shilajit bearing rocks. BHU. Prof S Ghosal.

9. Katti, Muralidhar K. Analysis of antigens of *Cysticercus cellulosae* and development of immunological methods for the diagnosis of neurocysticercosis. Bangalore. Dr A Chandramukhi, Prof and Head, Department of Medical Microbiology, National Institute for Mental Health and Neuro Sciences, Bangalore.

10. Laxminarayana Bairy, K. Histamine and related agents on wound healing. Mangalore. Dr D R Kulkarni, Prof and Head (Retd), Department of Pharmacology, Kasturba Medical College, Manipal.

11. Majumdar, Chandana. Cardio-visceral reflexes: Role of cardiac afferent. Calcutta.

12. Pani, S P. Epidemiology of malaria persistence in Koraput District, Orissa State. Pondicherry. Dr P K Rajagopalan, Department of Epidemiology, Vector Control Research Centre, Pondicherry.

13. Pharikal, Kaberi. Brain function of the rodent during protein restriction following exposure to heavy metal. Calcutta.

14. Rana, Avtar Chand. Phytochemical and pharmacological studies on medicinal plants with special reference to their use in fertility control. H S Gour. Prof D D Santani, L M College of Pharmacy, Ahmedabad.

15. Sachidananda Prasanna, P G. The effect of radiation and radio-protectors on certain cell-renewal systems of Swiss albino mice. Mangalore. Dr P Uma Devi, Prof and Head, Department of Radio-Biology, Kasturba Medical College, Manipal.

16. Saha, Sagarmay. Effect of fish oil on induced atherosclerosis with particular reference to platelet aggregation and lipoprotein function. Calcutta.

17. Sarban Singh. A study of some trace elements and enzymes in Indian childhood cirrhosis: ICC. Punjabi. Dr M S Sohal, Reader, Department of Sports Sciences, Punjabi University, Patiala; Dr Shanti Pammani, Prof and Head, Department of Biochemistry, Government Medical College, Patiala and Dr S P Pandov, Prof, Department of Paediatrics, Government Medical College, Patiala.

18. Suresh K. Assessment and augmentation of immunological status during tumor development. Calicut. Dr D M Vasudevan, Department of Biochemistry, Government Medical College, Trichur.

#### Animal Husbandry

1. Pauly, K V. Studies on the commercially important fishing gears of Vembanad Lake. CUST. Dr C Haridayanathan, Reader, Department of Industrial Fisheries, Cochin University of Science and Technology, Kochi.

2. Prem Pal. Effects of blood biochemical, polymorphic traits and environmental variations on growth, production and reproduction of murrah buffaloes. HAU.

3. Sankhyan, Surender Kumar. Influence of level of dietary fibre on crude protein and certain mineral utilization in growing rabbits. HP Krishi. Dr M P Narang, Additional Director, Department of Animal Husbandry, Himachal Pradesh Krishi Vishwavidyalaya, Palampur.



# BHAVNAGAR UNIVERSITY

## Notification No. 5/91

Applications are invited for the following posts in the prescribed forms which can be obtained from the university office by sending (Non-refundable) fees of Rs.25/- (Twenty five only) for the general category and Rs. 12.50 (Twelve and paise fifty only) for the reserved categories by crossed demand draft favouring "Registrar Bhavnagar University, Bhavnagar, or by depositing cash during 11.00 a.m. to 2.00 p.m. on working days. Applications with full details should reach in five copies for post No. 1 to 5 to the undersigned on or before date 30-10-1991

Sr.No.	Name of the posts	Pay-Scale	Remarks
1.	Principal (For Sir P.P. Instt. of Sci. College).	3700-5700 (After 5 years 4500-7300)	—
2.	Professor (One post each) (1) Economics (2) Hindi	4500-7300	—
3.	Reader (One post each) (1) Psychology (2) Economics (3) Commerce.	3700-5700 <b>Specialisation for :</b> (1) Post No.2 Agriculture and Industrial Economics. (2) Post No.3 Qualified to teach and to assist research work in Business Management in general and specialisation in Finance/Marketing/ Personnel Management.	
4.	Lecturer (One post each) (1) Sociology (2) Statistics (3) Organic Chemistry (4) Psychology (Samaldas Art College)	2200-4000  Second Attempt Second Attempt	Post No. 1 & 2 reserved for SC/ST and 4 for PH candidates.
5.	Deputy Registrar (For SC/ST Cell)	3000-4000 Fourth attempt	Reserved for ST candidates.

Qualifications for above posts including experience and other requirements will be supplied along with the application forms.

### NOTES:

- (1) Candidates already in service must apply through their present employer.
- (2) Age limit for lecturers' post not to exceed 45 years. However, the same is relaxable in the case of candidates who are already in the services of Bhavnagar University.  
(Including affiliated colleges).
- (3) Preference will be given to the experienced and qualified candidates belonging to SC and ST for the posts No. 1, 2 & 3.
- (4) Applicants must attach the certified copies of mark-sheets and other relevant certificates with the application in one copy only, without which the application will not be considered.
- (5) Candidates belonging to SC and ST should attach their certified copy of caste certificate.
- (6) Those candidates who are serving in Bhavnagar University colleges/affiliated colleges as a full time/part time lecturer before dt. 14.9.88 and possessing Master's degree with less than 55% marks will also be considered.
- (7) In case the Physically Handicapped candidate will not be available, the post will be filled from the general category for the post of lecturer in psychology.
- (8) Candidates having less than 55% marks at master's degree for the Lecturer's post need not apply.

D.A.Vaishnav  
REGISTRAR



# CLASSIFIED ADVERTISEMENTS

## MAHARSHI DAYANAND UNIVERSITY, ROHTAK

### Advertisement No.5/91

Applications on prescribed form are invited for the following post (s) :-

1. Professor: English—two & Pub. Admn—one
2. Readers: Rural Development—two
3. Lecturers: Geography—one, M.B.A.—three, Statistics-three (one against leave vacancy), Rural Development-two

#### University College

1. Lecturer: Hindi—one

#### Non-teaching posts

1. Director, Computer Centre—-one (Rs.4500-150-5700-200-7300) U.G.C.

#### Qualifications

- (i) Ph.D. with Ist Class degree at Bachelor's or Master's level in Engineering/Technology Science.
- (ii) 10 years' experience in teaching/industry/research, out of which 5 years must be at the level of Asstt. Professor or equivalent.

**NOTE:** Candidate from Industry/Professor with recognised professional work of high standard recognised at National/International level equivalent to Doctorate would also be eligible. Requirement of Ph.D. could be relaxed in view of long experience in computing in the next lower grade.

- (ii) Experience should be often the Academic qualifications acquired.

2. Medical Officer: one post (Rs. 2200-75-2800-EB-100-4000+NPA plus other allowance as admissible under the University rules).

#### Qualifications

"M.B.B.S. or an equivalent degree from an Indian or foreign University with at least three years experience of working in a Hospital or in a Private Nursing Home of repute."

The candidate (s) shall be required to execute a bond for three years service after recruitment & a guarantee of deposit of Rs.10,000/- in case the employee wishes to relinquish the assignment before the expiry of three years' period.

**NOTE:** Those who have already applied against the advertisement No. 2/91 need not apply again.

#### FIELD OF SPECIALIZATION

Lecturer in Geography : Political Geography

Lecturer in Statistics : Inference (parameteric and Nonparameteric), Sampling Theory, Designs of Experi-

ments, Reliability (Theory and Modelling), Demography and Statistical Genetics.

For teaching posts, U.G.C. qualifications and pay-scales. Other allowances and benefits of contributory Provident Fund admissible as per University rules. Higher start admissible in deserving cases. Knowledge of Hindi essential.

Reservation for Ex-servicemen, B.C./S.C./S.T. candidates as per rules. However, where the candidates under reserved categories are not available, the post will be filled from amongst the general category's candidates.

Applications are to be submitted on the form prescribed for Class 'A' Officers alongwith attested testimonials and Crossed Postal Orders for Rs.10/- drawn in favour of the Deputy Registrar (Accounts), M.D. University, Rohtak, payable at the Post Office, Rohtak. Applications (through proper channel from those in employment) complete in all respects should reach the Deputy Registrar (Estt.) Teaching, M.D. University Rohtak by 15.10.1991. Incomplete applications or applications received after the expiry of last date are liable to be rejected. The application forms can be had from the Press Manager, M.D. University, Rohtak on payment of Rs.2/- at the counter and Rs.3/- by ordinary post.

## MOHANLAL SUKHADIA UNIVERSITY

### Udaipur

Advt.No.7/91

September 18, 1991

Applications are invited on prescribed application form for the following posts. Application form alongwith details of qualifications etc. can be obtained from the Deputy Registrar (Recruitment), Mohanlal Sukhadia University, Udaipur-313001 on payment of Rs.10/- by cash/I.P.O. payable to Mohanlal Sukhadia University alongwith a self-addressed envelope of 27x12 cms. with Postal Stamps affixed of Rs.3/-. **LAST DATE** for receipt of application is **OCTOBER 31, 1991.**

Those who have already applied earlier in response to our Advt.Nos. 3/89 dated 21.12.1989, 1/90 dated 13.2.1990, 6/90 dated 8.11.1990 and 1/91 dated 5.2.1991 need not to apply again. However, they may submit additional information, if any, about their qualifications and achievements.

#### I. PROFESSOR : PAY SCALE : RS. 4500-7300

- (i) Geology-1 (ii) Banking and Business Economics-1 (iii) Physics-1 (iv) Urdu-1 (v) Geography-1 (vi) Philosophy-1 (vii) Meera Chair (Rajasthan)-1

Besides the general qualifications for this post, the applicant should possess:

एम. ए., पीएच. डी. हिन्दी अथवा राजस्थानी भाषाओं में तथा अभ्यर्थी का शोध कार्य "मीरा" के विषय में हो

#### II. READER (ASSOCIATE PROFESSOR) : PAY SCALE RS. 3700-5700

- (i) Physics-2(1 for SC) (ii) Chemistry-1(SC) (iii) Mathematics-1 (iv) Law-1 (v) History-1(SC) (vi) Rajasthani-1 (vii) Political Science-1 (viii) Accountancy & Statistics-1 (ix) Business Management-2(1 for SC) Specialisation in Production Management/Financial Management.

#### III. LECTURER (ASSISTANT PROFESSOR) : PAY SCALE RS. 2200-4000

- (i) Hindi-3 (1 for SC) (ii) Political Science-3 (1 for SC & 1 for ST) (iii) History-2 (1 for SC) (iv) Economics-1 (v) Drawing & Painting-1 (vi) Physics-2 (1 for SC & 1 for ST) (vii) Zoology-4 (1 for SC & 1 for ST) (viii) Botany-2 (1 for SC) (ix) Mathematics-3 (1 for SC) (x) Geology-1 (xi) Chemistry-4 (1 for SC & 1 for ST) (xii) Scientist 'B' Geology-1 (xiii) Hotel Management-1 (xiv) Law-1 (xv) Project Officer (Adult Education Project)-1.

#### IV Scientific Officer(Geology)-2 (1 for SC) in old UGC pay scale Rs.700-1300, likely to be revised.

Note: M.Sc. (Chemistry) and M.Sc. (Physics) can also apply. (Chemistry for Chemical Analyst & Physics for X-Ray Analyst).

#### GENERAL NOTE:

1. Number of post(s) may be increased or decreased.
2. The University reserves the right not to fill up post(s) advertised.
3. Application received on plain paper or after last date shall not be entertained.
4. Candidate(s) already in service should apply through proper channel.

REGISTRAR



**NOTE:** (i) The applications shall be screened by the Committee to be appointed by the Vice-Chancellor. The Screening Committee will be competent to screen applicants and classify them on the basis of qualifications and experience and call for interview only the selected candidates, after obtaining approval from the Vice-Chancellor.

ii) It will not be obligatory on the part of the University to call for interview every candidate who possesses the essential qualifications.

iii) Only those candidates who fulfil the prescribed qualifications on the last date of the receipt of applications shall be considered eligible. The documents concerning their eligibility received after the last date of applications shall not be entertained.

iv) Two years' research experience shall be considered from the date of registration/enrolment for Ph.D in the University.

v) Number of post may change.

vi) It is not necessary to fill any/all of the advertised vacancies. Recruitment shall be need based and the advertisement is no commitment. Canvassing will be disqualification.

**K.S.Sangwan**  
REGISTRAR

## **INDIRA KALA SANGIT VISHWAVIDYALAYA**

**Khairagarh (M.P.)**

**No. Estt/91/9267(1 to 16)**

**Dated: September 17, 1991**

### **Advertisement**

APPLICATIONS are invited for the following posts in the University Teaching Departments, viz: (i) one READER—History of Art and Culture, (ii) one READER—Vocal Music, and (iii) one ACCOMPANIST—Sarangi or Harmonium for Vocal Music Deptt.

**SCALE OF PAY: READER: Rs. 3700-125-4900-150-5700/- and ACCOMPANIST: Rs. 1400-40-1440-50-2340/-.**

**QUALIFICATIONS:** For Readers are as prescribed by the University Grants Commission. Details of qualifications for all advertised posts may be obtained from the Registrar. All posts carries CPF benefits and DA/ADA at University rates from time to time. Appointees will be on probation according to University rules. Retirement age 60 years. **ALL POSTS ARE RESERVED FOR SCHEDULED CASTES AND SCHEDULED TRIBES,** but if SC/ST candidates are not available, the posts will be filled in by general categories. Prescribed application forms (in six copies) and other details may be obtained from the REGISTRAR sending self addressed stamped envelope of Rs.5/- of 25x12 cms. Application fees Rs. 30/- for Reader and Rs.15/- for Accompanist in the form of IPO. Application fee for the candidates of SC/ST will be one-fourth.

Last date for receipt of prescribed filled-up applications in six copies is **15th November, 1991.** No blank prescribed application forms will be sent/supplied after 30th October, 1991. No postal delay is accepted.

THE UNIVERSITY reserves the right to (i) keep vacant any of the advertised posts without assigning reasons, (ii) relax any of the prescribed qualifications at its discretion, (iii) consider and appoint a person who may not have applied. Candidates called for interview will be required to come at their own cost. Candidates who are in service must apply **THROUGH PROPER CHANNEL.**

**M.K.Gangajaliwale**  
REGISTRAR

## **TATA INSTITUTE OF SOCIAL SCIENCES (A Deemed University)**

**P.B. No.8313, Deonar**

**Bombay-400 088**

**No. Admn/Adv1/91 September 17, 1991**

Applications are invited for the following posts:

**I. INTERNAL AUDITOR (One post, reserved for SC) in the pay scale of Rs.3700-125-4950-150-5700 + D.A. and other allowances.** The candidates should have (1) M.Com degree from a recognised University with at least 55% of the marks or its equivalent grade (2) 8 years of experience as Auditor in Central Government/State Government/Central Universities carrying a scale of pay of Rs.2200-4000 and (3) should have passed SAS examination. In case a suitable person is not found at this level, the Institute may consider appointing a person as Assistant Internal Auditor (equivalent to Assistant Registrar's level) in the scale of Rs.2200-4000 from among those who apply. Maximum Age: 50 years as on 30-10-91 (including 5 years relaxation for SC)

**II. DEPUTY REGISTRAR (One post) in the pay scale of Rs.3700-125- 4950-150-5700 + D.A. and other allowances.** The candidates should have (1) a Post-Graduate degree from a recognised University with at least 55% of the marks or its equivalent grade and (2) 8 years of experience as Lecturer in a College or a University with experience in Educational Administration or comparable experience in research establishment and other institutions of higher education or 8 years of administrative experience as Assistant Registrar or in a post carrying a scale of pay of Rs.2200-4000. Maximum age: 50 years as on 30-10-1991.

The prescribed application form and details about experience, etc. can be obtained from the Assistant Registrar (Personnel) either in person or by post by sending an application along with a stamped (Rs.4.00) self-addressed envelope. For SC/ST candidates the prescribed form and detailed information will be supplied free of cost on receipt of their application with a copy of the caste certificate. Outstation candidates

(both SC/ST and general) called for interview will be paid a contribution equal to 50% of the 1st class return rail fare through the shortest route or full 2nd class return rail fare. The Completed applications in the prescribed form should reach the Assistant Registrar (Personnel) on or before **30-10-1991.** Canvassing in any form will be treated as disqualification.

**Dr. S.K. Bandyopadhyay**  
REGISTRAR

## **HIMACHAL PRADESH UNIVERSITY**

**'Recruitment Branch'**

**Advertisement No.4/91.**

### **CORRIGENDUM**

Please read "Professor in History-1" instead of 'Modern Indian History-1' advertised vide Advt.No.3/91, dated August 16, 1991.

**A.R. Chauhan**  
REGISTRAR

## **UNIVERSITY OF POONA**

**Ganeshkhind, Pune - 411 007**

**No.Adv-67, Date: 23.9.1991**

Applications are invited for the post of Registrar on the pay scale of Rs.4500-150-5700-200-7300 and admissible allowances.

Applicant should possess qualifications and experience as under:-

Minimum qualifications prescribed by the University Grants Commission for the post of University Professor i.e.

- 1) Postgraduate Degree with at least 55% marks or its equivalent grade.
- 2) At least 15 years of experience as Lecturer/Reader of which 8 years should be in the Reader's grade, with experience in educational administration.

**OR**

Comparable experience in research establishment and other institutions of higher education.

**OR**

15 years of administrative experience of which 8 years as Deputy Registrar or an equivalent post.

The appointment will be on temporary basis for a period of two years, and likely to be extended upto five years. The appointment may be terminated with one month's notice or one month's pay in lieu thereof.

Candidates already in service should submit their applications through proper channel. Other things being equal, candidates belonging to SC/ST/DTNT will be given preference. Canvassing is disqualification.

Applications on a plain paper accompanied by copies of the testimonials, duly certified, should reach the Registrar not later than **Tuesday, 22nd October, 1991.**

Applicants, if called for an interview, will have to attend the interview at their own cost.

**Subhashchandra Bhosale**  
REGISTRAR



# SCHOOL OF CORRESPONDENCE COURSES ANDHRA UNIVERSITY: WALTAIR

## ADMISSION NOTIFICATION

Applications are invited from the candidates residing in India for admission into the following courses in the School of Correspondence Courses for the academic year 1991-92.

### COURSE

### ELIGIBILITY

#### I. SIX MONTHS FOUNDATION COURSE

1. Introductory Course(both English and Telugu media).  
This course is offered to prepare the candidates for Entrance Examination to be held in June, 1992 for Liberalized admission into B.A./B.Com. Courses without any formal academic qualification by supplying study material.

No formal academic qualifications are needed. But the candidate should have completed 20 years of age by 1.7.92.

#### II. THREE YEAR DEGREE COURSES

2. B.A. (both English and Telugu media) with the combinations of Spl. English, Spl.Telugu, History Economics, Politics Public Administration, Sociology and Mathematics.
3. B.Com. (both English and Telugu media)
4. B.Sc. (English medium only) with the combination of Mathematics, Physics and Chemistry.

Intermediate/P.U.C. or Equivalent or pass in the Entrance Examination conducted by this School.

Intermediate/P.U.C. or equivalent or pass in the Entrance Examination conducted by this School.

Intermediate/P.U.C. or equivalent with Physical Sciences and Mathematics.

Applications will be issued from 25-9-1991. Filled-in applications should reach the undersigned on or before 30-11- 1991.

Intending candidates may write to the undersigned by Designation for Application form and Prospectus by sending Rs.20/- by Demand Draft/Money Order in favour of the Director, School of Correspondence Courses, Andhra University, Waltair-530003.

The candidates have to write their name, address and course for which they want the prospectus on the back of the D.D. or M.O. coupon whichever is applicable. The candidates may also remit cash at the Cash Counter of the School of Correspondence Courses towards Application form and Prospectus. Postal Orders and Cheques will not be accepted.

#### OTHER PLACES OF SALE OF APPLICATIONS

The Admission Application forms and Prospectus are also available, besides at the School, at the following places:

##### (A) AT NEW DELHI

1. Sales Counter, Association of Indian Universities, A.I.U. House, 16 Kotla Marg,
2. Sales Counter, Andhra Pradesh Bhavan, 1 Ashoka Road, and
3. Sri Venkateswara College, Dhaula Kuan, Benito Jaurez Road

##### (B) STUDY CENTRES

The Admission Application forms and Prospectus are also available at the following Study Centres in the State of Andhra Pradesh : (1) Government College, Srikakulam; (2) M.R. College, Vizianagaram; (3) Mrs. A.V.N. College, Visakhapatnam; (4) Government College, Rajahmundry; (5) P.R. Government College, Kakinada; (6) Sir C.R. Reddy College, Eluru; (7) S.R.R. & C.V.R. Govt. College, Vijayawada; (8) A.C. College, Guntur; (9) D.N.R. College, Bhimavaram; (10) A.B.M. College, Ongole; (11) Silver Jubilee College, Kurnool; (12) Indian Institute of Management and Commerce, Hyderabad; (13) A.M.A.L. College, Anakapalle; (14) R.S.R. & K.R.R. College, Bobbili; (15) Noble College, Machilipatnam; (16) V.S.R. and N.V.R. College, Tenali; (17) Government Degree College, Narasannapeta; (18) S.S. & N. College, Narasaraopeta; (19) S.G.S. College, Jaggayyapeta; (20) S.K.B.R. College, Amalapuram; (21) Sri Sarvodaya College, Nellore; (22) V.R.S. & Y.R.N. College, Chirala; and (23) V.V. & M. College, Ongole.

The School has no agents and takes no responsibility for prospectus issued and promises, made for admission by any other institution.

Special Note for the Successful Candidates in the B.A./B.Com. Entrance Examination of July, 1991 :

All the successful candidates in the B.A./B.Com. Entrance Examinations held in July, 1991 need not apply for the admission application form and prospectus for admission into 1st year Degree Course. The School will arrange to send the admission application form and Prospectus along with the Marks Statement- cum-Eligibility Certificate to such candidates. They have to pay an amount of Rs.20/- towards the cost of admission application form and prospectus along with the prescribed tuition fee at the time of admission. However, the duly filled-in admission application form along with the necessary enclosures including Demand Draft/M.O. Receipt towards prescribed fee should reach the School of Correspondence Courses on or before the prescribed last date.

Waltair

18-9-1991

Prof. V.Abraham

DIRECTOR



# NATIONAL INSTITUTE OF HYDROLOGY

## JAL VIGYAN BHAWAN, ROORKEE

No.10/91-NIH (Admn.)

Dated: 27.8.91

Applications are invited for the following posts in National Institute of Hydrology (A Govt. of India Society under Ministry of Water Resources), Roorkee from Indian Nationals satisfying qualifications and experience laid down therefor.

1. **SCIENTIST 'E'** : 7 posts in the following areas of specialisations (likely to increase) of which three posts are meant for Regional Centres. a. **SURFACE WATER/WATER RESOURCES SYSTEMS** 5 NOS. (2 FOR HQ AND 3 FOR REGIONAL CENTRES). b. **DROUGHT STUDIES**.....1 NO. c. **HYDROLOGICAL INVESTIGATIONS**.....1 NO.

**Scale of Pay** : Rs.3700-125-4700-150-5000. Total emoluments at the initial of the scale is Rs.5485/- excluding HRA/CCA. **Age** : Preferably below 45 years. **Qualifications** : **ESSENTIAL** :

(i) **Educational** : **Area** : **Surface Water/Water Resources Systems**

ME/M. Tech in Water Resources/Hydraulics/Irrigation/Hydrology/Soil Water with 60% or 7.0/10.0 CGPA in both B.E./B. Tech. and M.E./M. Tech. examination OR Ph. D. Degree in Geography with 60% or 7.00/10.0 CGPA in Master's degree Exam. **Area** : **Drought Studies** ME/M. Tech in Water Resources/Hydraulics/Irrigation/Hydrology/Soil Water with 60% or 7.00/10.0 CGPA in both B.E./B. Tech. and M.E./M. Tech. examinations. OR Phd. Degree in Geography/Geology with 60% or 7.00/10.0 CGPA in Master's degree Exam. **Area** : **Hydrological Investigations** ME/M. Tech in Water Resources/Hydraulics/Irrigation/Hydrology/Soil Water with 60% or 7.00/10.0 CGPA in both B.E./B. Tech. and M.E./M. Tech. examinations. OR Ph. D. Degree in Physics/Geology/Geography with 60% or 7.00/10.00 CGPA in Master's degree Exam. (ii) **Experience** : At least 10 years experience in teaching/research/design/investigation/and planning of which at least 5 years experience must be at the Scientist 'C' or equivalent level (pay scale of Rs.3000-4500) with proven ability of conducting and guiding research and with experience in handling applied research problems.

**DESIRABLE**: 1. Ph. D. in Engineering for Engg. post graduate and post doctoral work for Ph. D in Science. 2. Publications in reputed National and International journals. 3. Corporate membership of professional, scientific and engineering associations/societies.

**NOTE**:- Who have already applied for the post of Scientist-E against the advt. No.8/91, need not to apply again. However, they may indicate their willingness for the post of the Regional Centres.

2. **SCIENTIST 'C'** : 6 posts in the following areas of specialisation (likely to increase), of which two posts are meant for Regional Centres. a. **SURFACE WATER** 3 NOS. (1 FOR HQ AND 2 FOR REGIONAL CENTRES). b. **DROUGHT STUDIES**.....1 NO. c. **WATER RESOURCES SYSTEM**.....1 NO. d. **REMOTE SENSING APPLICATIONS**.....1 NO.

**Scale of Pay** : Rs.3000-100-3500-125-4500. Total emoluments at the initial of the scale is Rs.4,530/- per month excluding HRA/CCA. **Age** : Preferably below 40 years **Qualifications** : **ESSENTIAL** : (i) **Educational** : **Area** : **Surface Water** ME/M. Tech. in Water Resources/Hydraulics/Soil Water with 60% or 7.0/10.0 CGPA in both B.E./B. Tech. and ME/M. Tech examinations. OR Ph. D. Degree in Geography with 60% or 7.00/10.0 CGPA in Master's Degree Examination. **Area** : **Drought Studies** ME/M. Tech in Water Resources/Hydraulics/Irrigation/Hydrology/Soil Water with 60% or 7.00/10.0 CGPA in both B.E./B. Tech. and M.E./M. Tech. examinations. OR Ph. D. Degree in Geography/Geohydrology/Hydro-geology with 60% or 7.00/10.0 CGPA in Master's degree Examinations. **Area** : **Water Resources System** ME/M. Tech in Water Resources/Hydraulics/Irrigation/Hydrology with 60% or 7.00/10.0 CGPA in both B.E./B. Tech. and M.E./M. Tech. examinations. **Area** : **Remote Sensing** ME/M. Tech with Water Resources/Hydraulics/Irrigation/Hydrology/Soil Water/Remote Sensing with 60% or 7.00/10.0 CGPA in both B.E./B. Tech. and M.E./M. Tech. examinations. (ii) **Experience** : At least 5 years experience in teaching/research/design/investigation/planning in the relevant field at the level of Scientist 'B' in the pay scale of Rs.2200-4000 or

equivalent with proven ability of conducting independent study/research.

**DESIRABLE** : 1. Ph. D. in Engineering for Engineering post graduate and post doctoral work for Ph. D in Science. 2. Publications in reputed National and International journals.

**NOTE**: 1. Time spent on Ph. D. by engineering post-graduate shall be considered as experience upto a maximum of 3 years. 2. The qualifications regarding experience are relaxable at the discretion of competent authority in the case of candidates belonging to SC/ST, if at any stage of selection the competent authority is of the opinion that sufficient number of candidates from these communities possessing the requisite qualifications are not likely to be available to fill up the vacancies reserved for them. 3. Selected persons can be appointed on deputation basis also. The above mentioned posts carry usual allowances as admissible under the Central Govt. Rules. Age will be relaxable for persons, already in service in the Institute and other Govt./Semi-Govt. belonging to SC community, retrenched employees of Defence services and physically handicapped persons, as per rules of the Government of India. Age will be determined as on 22.10.91.

Application forms in the following format in duplicate alongwith the copies of testimonials and an application fee in form of Indian Postal Order of Rs.8/- (SC/ST candidates are exempted from payment of fee) payable to the National Institute of Hydrology at the Roorkee University Post Office should reach the **Administrative Officer, National Institute of Hydrology, Jal Vigyan Bhawan, Roorkee-247 667 (UP)** on or before 22.10.1991.

Candidates willing to be considered for Regional Centres should clearly indicate in their application.

Persons already employed in Govt./Semi-Govt./Autonomous Bodies should apply through proper channel.

Candidates whose applications are not forwarded through proper channel or not producing No Objection Certificate will not be considered.

### JOB LOCATION: ANY WHERE IN INDIA

Candidates should apply in following **FORMAT** in duplicate the applications must be neatly typed on fullscale paper. Attested copies of certificates for educational, professional qualifications, experience etc. must be attached with the application form by the candidate.

### FORMAT FOR APPLICATION

1. Post applied for
2. No. ....and Date of IPOs.....Amount.....
3. Full name (Block Letters)
4. Father's Name
5. Date of birth  
Age: years.....Month.....Days.....
6. Marital status
7. Permanent address
8. Address for communication
9. Details of Educational qualifications (starting High School/Matric onwards) with percentage marks and position.
10. Details of professional courses/Training etc.
11. Details of papers published/research work
12. Details of experience and employment
13. Whether SC/ST/Ex-serviceman/Handicapped
14. Name and addresses of two referees (not related and who have been teachers or are superiors)
15. Details of employment :-

Sl. No.	Name of employer	Post held	Period	Pay drawn	Pay scale	Specific experience gained
16.	Whether SC/ST/Ex-serviceman/Handicapped					
17.	Willing to be considered for Regional Centre YES/NO					

Certified that all information given in the application is true to the best of my knowledge.

SIGNATURE OF CANDIDATE















